

# KP-46XBR25 / 53XBR25 / 61XBR28

RM-Y114A

## SERVICE MANUAL

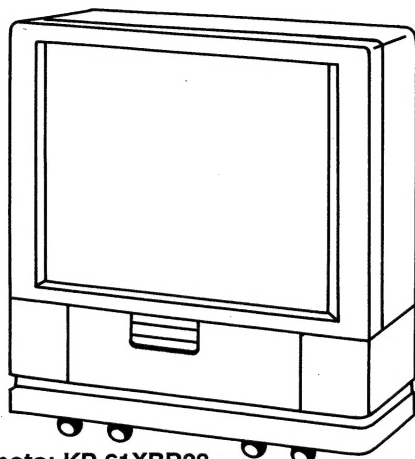
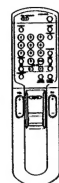


Photo: KP-61XBR28



### US Model

KP-46XBR25

Chassis No. SCC-F19J-A

KP-53XBR25

Chassis No. SCC-F19L-A

KP-61XBR28

Chassis No. SCC-F19Q-A

### Canadian Model

KP-53XBR25

Chassis No. SCC-F23E-A

## AP CHASSIS

### MODELS OF THE SAME SERIES

KP-46XBR25/53XBR25/61XBR28	KP-41EXR96
KP-46V15/46V16	KPR-41EXR95
KP-53V15/53V16/61V15	KPR-46XBR15/53XBR15

### SPECIFICATIONS

Structure	Screen and projector, rear projection type	Television system	American TV standards
Projection system	3 picture tubes, 3 lenses, horizontal in-line system	Channel coverage	VHF: 2-13 UHF: 14-69 CABLE TV: 1-125
Picture tube	7 inch high-brightness monochrome tubes (5.5 raster size), with optical coupling and liquid cooling system	Antenna	75-ohm external antenna terminal for VHF/UHF
Projection lenses	High performance, larger-diameter hybrid lens F 1.0	Input jacks	VIDEO IN 1, 2 and 3 S VIDEO IN (4-pin mini DIN) Y: 1 Vp-p, 75-ohms unbalanced, sync negative C: 0.286 Vp-p (Burst signal) 75-ohms Video (phono jacks): 1 Vp-p, 75-ohms unbalanced, sync negative
Screen material	Plastic lenticular, Plastic fresnel		Audio (phono jacks): 500 mVrms (100% modulation) Impedance: 47 kilo-ohms
Projected picture size (in inches, measured diagonally)	46 (KP-46XBR25) 53 (KP-53XBR25) 61 (KP-61XBR28)		
Screen brightness (cd/m <sup>2</sup> )	1,600 (KP-46XBR25) 1,250 (KP-53XBR25) 900 (KP-61XBR28)		

- Continued on next page -

COLOR REAR VIDEO PROJECTOR  
**SONY**®



Output jacks **MONITOR OUT**  
S VIDEO MONITOR OUT  
(4-pin mini DIN)  
Y:1 Vp-p, 75-ohms  
unbalanced, sync negative  
Video (phono jacks):1Vp-p, 75-ohms  
unbalanced, sync negative  
Audio (phono jacks):500mVrms  
(100% modulation)  
Impedance:10 kilo-ohms  
**AUDIO (VAR) OUT**  
(phono jacks)  
More than 900mVrms (100% modulation)  
at the maximum volume setting (variable)  
Impedance:5kilo-ohms  
**AUDIO OUT**  
(phono jacks)  
900mVrms (100% modulation)  
Impedance:5kilo-ohms

**Speaker**  
KP-46XBR25/53XBR25  
Woofer 120 mm (4<sup>3</sup>/<sub>4</sub> inches) diameter  
Tweeter 25 mm (1 inches) diameter  
KP-61XBR28  
Woofer 160 mm (6<sup>1</sup>/<sub>2</sub> inches) diameter  
Tweeter 50 mm (2 inches) diameter  
20W×2 (FRONT) 10W×2 (REAR)  
16Ω NORM. 30W MAX 50W  
**Speaker output**  
**CENTER SPEAKER input**  
**Power requirements**  
120 V AC, 60 Hz  
**Power consumption**  
350W (max.) 280W (avg.)  
7W (standby mode)  
**Dimensions (w/h/d)**  
1,103.9×1,289.1×511.8 mm  
(40<sup>1</sup>/<sub>2</sub>×50<sup>3</sup>/<sub>4</sub>×20<sup>1</sup>/<sub>4</sub> inches)  
(KP-46XBR25)  
1,237.9×1,338.1×614.6 mm  
(48<sup>3</sup>/<sub>4</sub>×52<sup>3</sup>/<sub>4</sub>×24<sup>1</sup>/<sub>4</sub> inches)  
(KP-53XBR25)  
1,560×1,532×780 mm  
(61<sup>7</sup>/<sub>16</sub>×60<sup>5</sup>/<sub>16</sub>×30<sup>11</sup>/<sub>16</sub> inches)  
(KP-61XBR28)  
**Weight**  
91 kg (200 lb 10 oz) (KP-46XBR25)  
94 kg (207 lb 4 oz) (KP-53XBR25)  
170 kg (374 lb 13 oz) (KP-61XBR28)  
**Supplied accessories**  
Remote Commander RM-Y114A (1)  
with 2 size AA (R6)  
EVEREADY batteries  
**Optional accessories**  
U/V mixer EAC-66  
Connecting cable  
RK-74A  
VMC-810S/820S  
YC-15V/30V  
VCR Tray SU-PJT1  
(except for KP-61XBR28)

Design and specifications are subject to change without notice.

**(CAUTION)**

SHORT CIRCUIT THE ANODE OF THE PICTURE TUBE AND THE ANODE CAP TO THE METAL CHASSIS, CRT SHIELD, OR CARBON PAINTED ON THE CRT, AFTER REMOVING THE ANODE.

**WARNING!!**

AN ISOLATION TRANSFORMER SHOULD BE USED DURING ANY SERVICE TO AVOID POSSIBLE SHOCK HAZARD, BECAUSE OF LIVE CHASSIS.  
THE CHASSIS OF THIS RECEIVER IS DIRECTLY CONNECTED TO THE AC POWER LINE.

**SAFETY-RELATED COMPONENT WARNING !!**

COMPONENTS IDENTIFIED BY SHADING AND MARK  $\Delta$  ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY. CIRCUIT ADJUSTMENTS THAT ARE CRITICAL TO SAFE OPERATION ARE IDENTIFIED IN THIS MANUAL. FOLLOW THESE PROCEDURES WHENEVER CRITICAL COMPONENTS ARE REPLACED OR IMPROPER OPERATION IS SUSPECTED.

**(ATTENTION)**

APRES AVOIR DECONNECTE LE CAP DE L'ANODE, COURT-CIRCUITER L'ANODE DU TUBE CATHODIQUE ET CELUI DE L'ANODE DU CAP AU CHASSIS METALLIQUE DE L'APPAREIL, OU AU COUCHE DE CARBONE PEINTE SUR LE TUBE CATHODIQUE OU AU BLINDAGE DU TUBE CATHODIQUE.

**ATTENTION!!**

AFIN D'EVITER TOUT RISQUE D'ELECTROCUTION PROVENANT D'UN CHASSIS SOUS TENSION, UN TRANSFORMATEUR D'ISOLEMENT DOIT ETRE UTILISE LORS DE TOUT DEPANNAGE.  
LE CHASSIS DE CE RECEPTEUR EST DIRECTEMENT RACCORDE A L'ALIMENTATION SECTEUR.

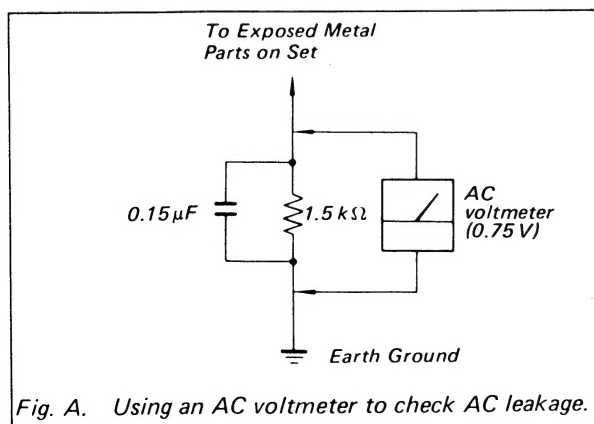
**ATTENTION AUX COMPOSANTS RELATIFS A LA SECURITE!!**

LES COMPOSANTS IDENTIFIES PAR UNE TRAME ET PAR UNE MAPQUE  $\Delta$  SUR LES SCHEMAS DE PRINCIPE, LES VUES EXPLOSEES ET LES LISTES DE PIECES CONT D'UNE IMPORTANCE CRITIQUE POUR LA SECURITE DU FONCTIONNEMENT. NE LES REMPLACER QUE PAR DES COMPOSANTS SONY DONT LE NUMERO DE PIECE EST INDIQUE DANS LE PRESENT MANUEL OU DANS DES SUPPLEMENTS PUBLIES PAR SONY. LES REGLAGES DE CIRCUIT DONT L'IMPORTANCE EST CRITIQUE POUR LA SECURITE DU FONCTIONNEMENT SONT IDENTIFIES DANS LE PRESENT MANUEL. SUIVRE CES PROCEDURES LORS DE CHAQUE REMPLACEMENT DE COMPOSANTS CRITIQUES, OU LORSQU'UN MAUVAIS FONCTIONNEMENT EST SUSPECTE.

## SAFETY CHECK-OUT (US Model Only)

After correcting the original service problem, perform the following safety checks before releasing the set to the customer:

1. Check the area of your repair for unsoldered or poorly-soldered connections. Check the entire board surface for solder splashes and bridges.
2. Check the interboard wiring to ensure that no wires are "pinched" or contact high-wattage resistors.
3. Check that all control knobs, shields, covers, ground straps, and mounting hardware have been replaced. Be absolutely certain that you have replaced all the insulators.
4. Look for unauthorized replacement parts, particularly transistors, that were installed during a previous repair. Point them out to the customer and recommend their replacement.
5. Look for parts which, though functioning, show obvious signs of deterioration. Point them out to the customer and recommend their replacement.
6. Check the line cord for cracks and abrasion. Recommend the replacement of any such line cord to the customer.
7. Check the condition of the monopole antenna (if any).  
Make sure the end is not broken off, and has the plastic cap on it. Point out the danger of impalement on a broken antenna to the customer, and recommend the antenna's replacement.
8. Check the B+ and HV to see they are at the values specified. Make sure your instruments are accurate; be suspicious of your HV meter if sets always have low HV.
9. Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.



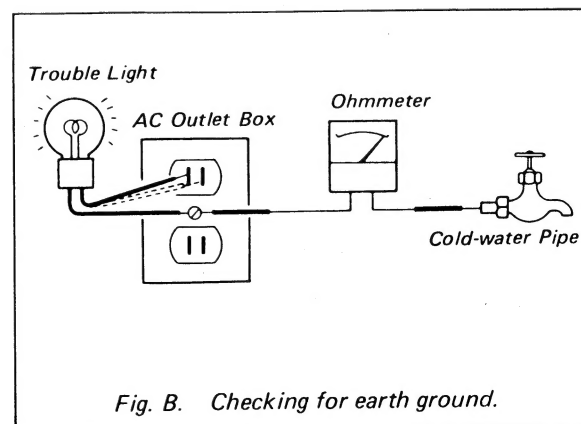
### LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microamperes). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2V AC range are suitable. (See Fig. A)

### HOW TO FIND A GOOD EARTH GROUND

A cold-water pipe is guaranteed earth ground; the cover-plate retaining screw on most AC outlet boxes is also at earth ground. If the retaining screw is to be used as your earth-ground, verify that it is at ground by measuring the resistance between it and a cold-water pipe with an ohmmeter. The reading should be zero ohms. If a cold-water pipe is not accessible, connect a 60–100 watts trouble light (not a neon lamp) between the hot side of the receptacle and the retaining screw. Try both slots, if necessary, to locate the hot side of the line, the lamp should light at normal brilliance if the screw is at ground potential. (See Fig. B)



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The operating instructions mentioned here are partial abstracts from the Operating Instruction Manual. The page numbers of the Operating Instruction Manual remain as in the manual.

## SECTION 1 GENERAL

### 1-1. UNPACKING AND VIEWING AREA

**1** Carefully follow the instructions on the outside of the packing carton to unpack the projection TV.

#### Notes

- The supplied accessories are packed in the bottom of the carton. Be sure not to throw them away.
- Keep the original carton and packing materials to safely transport the projection TV in the future.

**2** Check to make sure that the following is included:

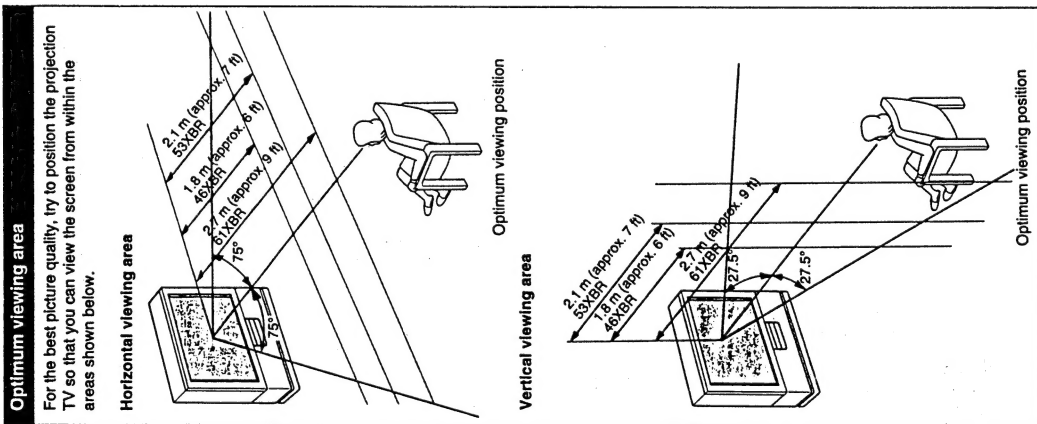
Universal Remote Commander RM-Y114A (1)  
with 2 size AA (R6) EVEREADY batteries

If the Remote Commander is missing, contact your dealer.

**3** Place the projection TV in a cool, dry place where the ventilation openings at the sides are not blocked.

**4** Plug the projection TV power cord into an AC 120 volt power outlet.

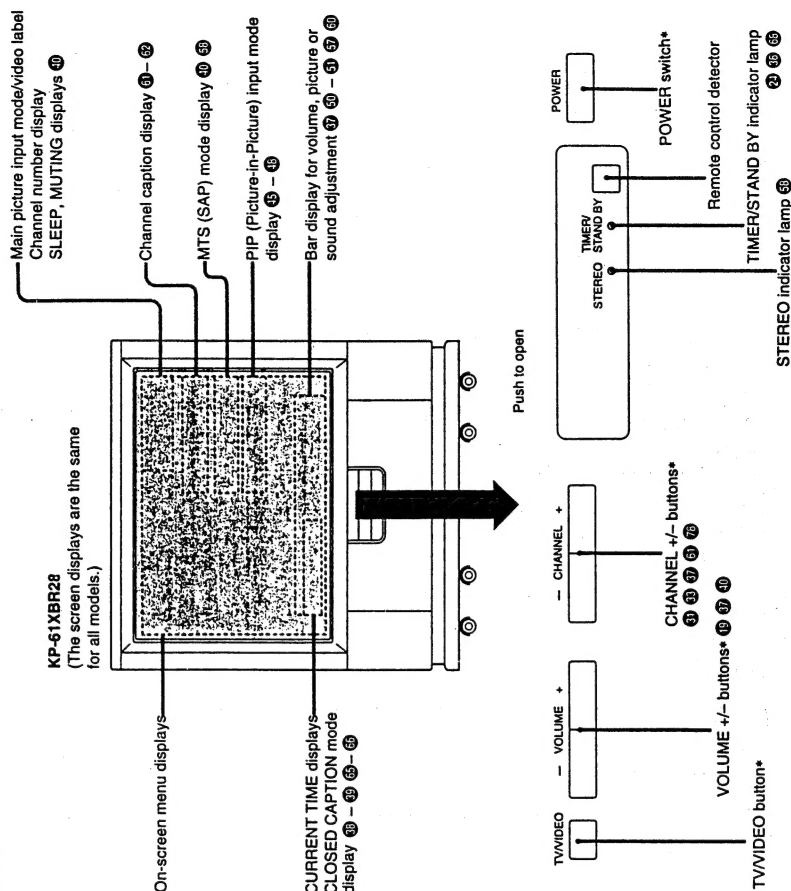
For further precautions, see p. 2.



### 1-2. LOCATING CONTROLS AND CONNECTORS

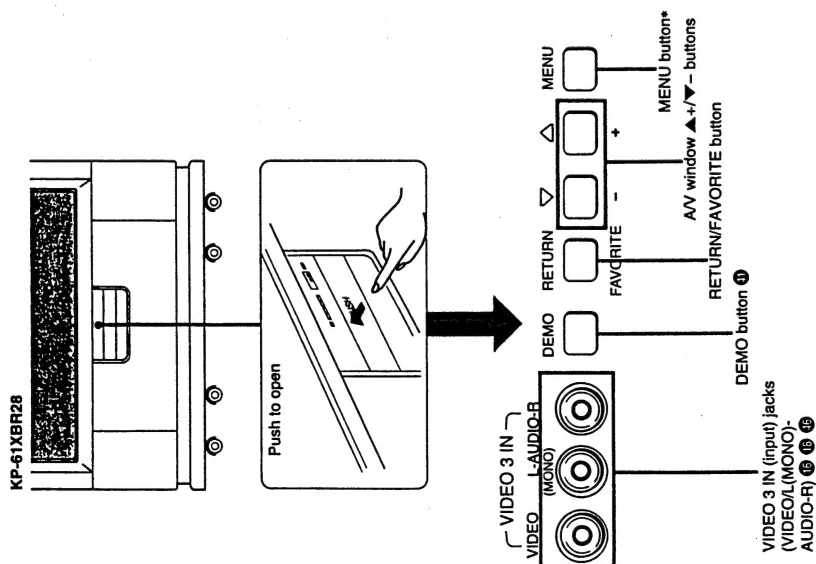
For details, see the pages indicated by the numbered black circles ●.

Front



• Buttons with the same function are also located on the Remote Commander (p. 10).

Front inner panel



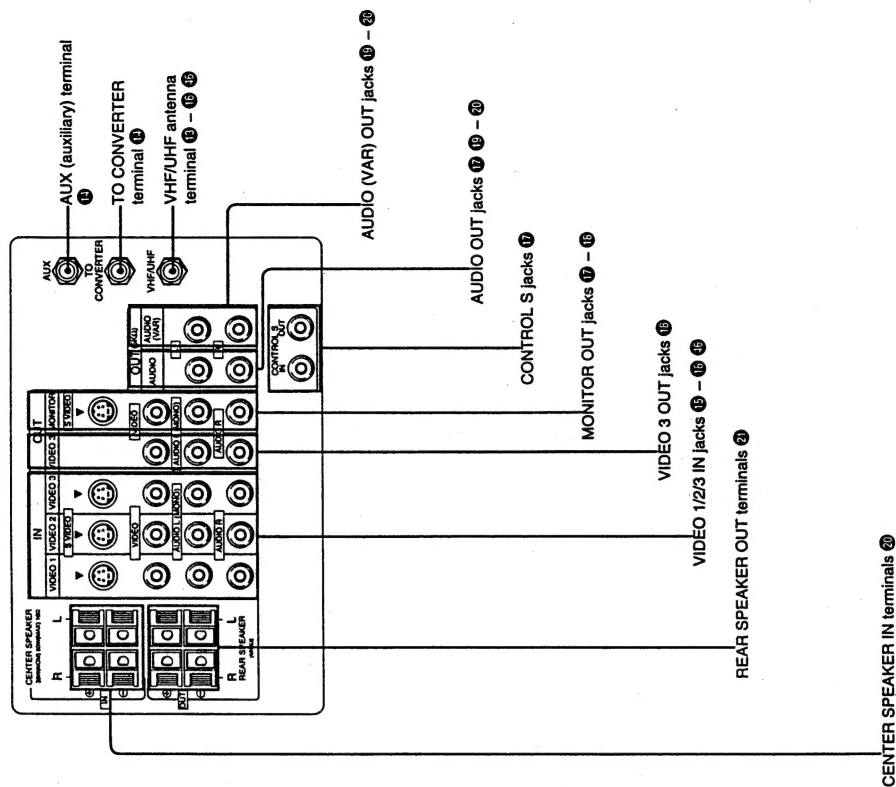
\* Buttons with the same function are also located on the Remote Commander (p. 10).

**Note**

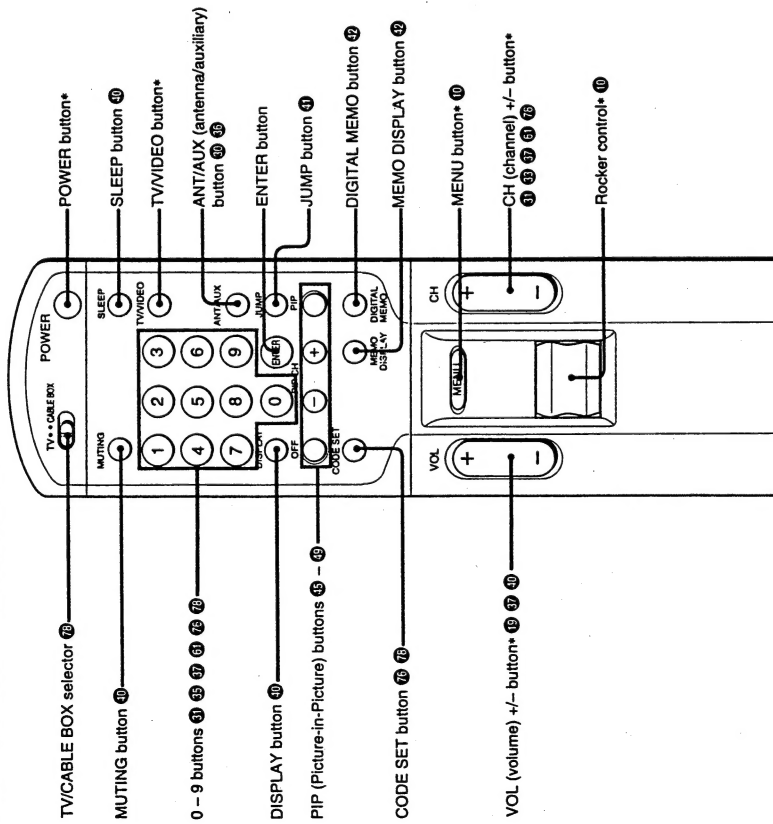
The instructions in this manual are based for the most part on operating the projection TV with the Remote Commander. You can also use the buttons on the projection TV that have the same function. The following are controls that are of different types, but have exactly the same function.

Projection TV	AV window $\Delta$ +/ $\nabla$ - buttons	RETURN button
Remote Commander	Rockers control (press up or down)	Rockers control (click)

Rear



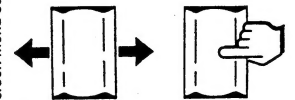
# Remote Commander RM-Y114A (Outer panel controls)



## Using the rocker control

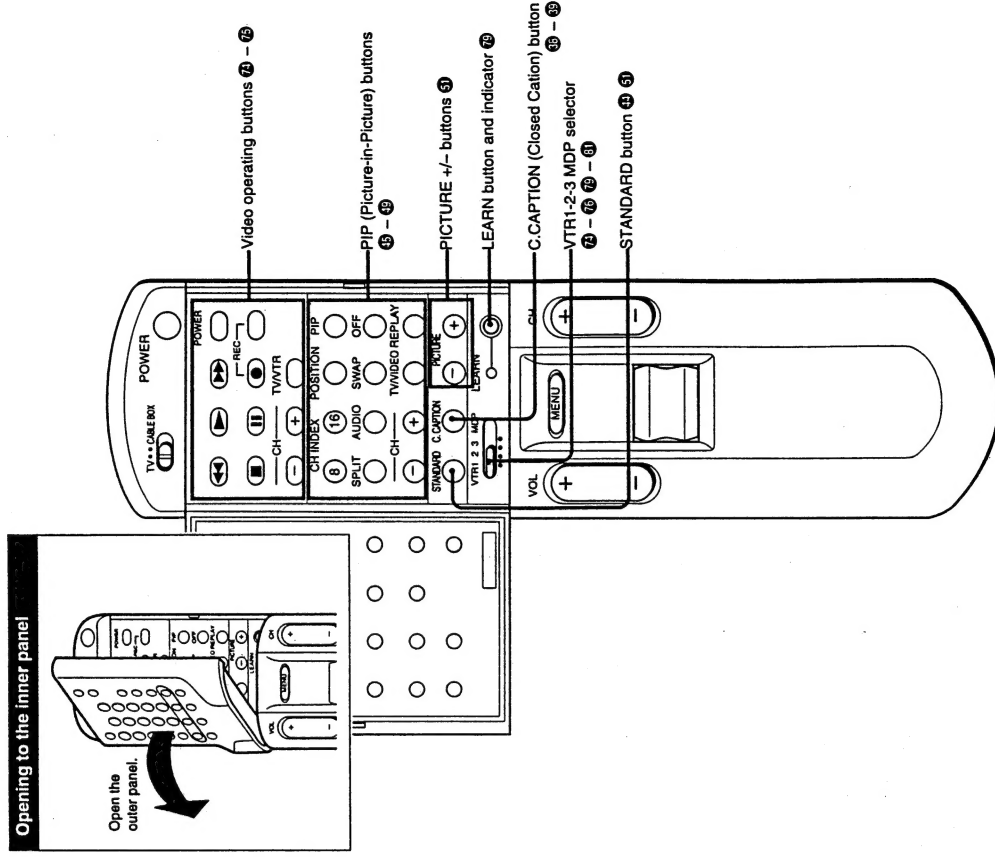
Use the rocker control to make on-screen menu selections (see p. 22).

Press the control up or down to make a selection.



Click the control to execute the selection.

# Remote Commander RM-Y114A (Inner panel controls)



\* Buttons with the same function are also located on the projection TV (pp. 7-8).

**Note**  
If the TV/CABLE BOX selector is set to CABLE BOX, the Remote Commander is able to control a connected cable box, not the projection TV (p. 74). Set the selector to TV to control the projection TV with the Remote Commander.



## Navigating through the menus

To display the main menu  
Press MENU.

To return to the previous menu  
Press the rocker control up or down until the cursor points to "▷ MENU".  
Then click the rocker control.

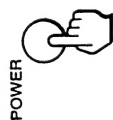
To return to the main menu  
Repeat the above, until you reach the main menu.

To return to the normal screen  
Press MENU on the Remote Commander.

## Changing the menu language

The menu language is factory-set to ENGLISH. Follow these instructions to change the menu language to Spanish or French, or back to English.

**1** Press POWER to turn on the projection TV.  
TIMER/STAND BY indicator blinks until the picture appears.

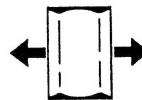


POWER

**2** Press MENU.  
The main menu appears.

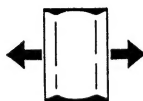


**3** Press the rocker control up or down until the cursor points to "ENGLISH".  
Then click the rocker control.  
The language display turns red.



To return to the normal screen.  
Press MENU on the Remote Commander.

**4** Press the rocker control up or down to select the language.  
Each time you press the rocker control up or down, the "ESPAÑOL," "FRANÇAIS" and "ENGLISH" menus appear.



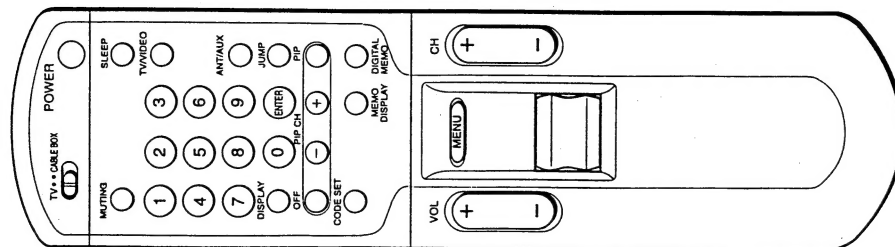
**Note**  
Certain parts of the "ESPAÑOL" and "FRANÇAIS" menus remain in English.

**5** Click the rocker control.  
The language is selected.



Spanish menu

## 1-4. ADJUSTING COLOR REGISTRATION (CONVERGENCE)



In a projection TV, the projection tube image appears on the screen in three color layers (red, green and blue). If these layers are not in proper registration, the color is poor and the picture blurs. To correct this, perform the CONVERGENCE adjustment.

- 1** Press MENU.  
The main menu appears.
- 2** Press the rocker control up or down until the cursor points to "CONVERGENCE."
- 3** Click the rocker control.  
The CONVERGENCE screen and the colored adjustment lines appear.
- 4** Press the rocker control up or down until the cursor points to the symbol representing the line you want to adjust (see the key below).

Adjustment line symbols key  
 — (red vertical: left/right adjustment)  
 — (red horizontal: up/down adjustment)  
 — (blue vertical: left/right adjustment)  
 — (blue horizontal: up/down adjustment)

- 5** Click the rocker control.  
The adjustment line is selected.
- 6** Press the rocker control up or down until the line converges with the center green line. Then click the rocker control.

To move up To move right To move down To move left	Press the rocker control up. Press the rocker control down.
---	--
- 7** Repeat steps 4 - 6 to adjust the other lines, until all the lines have overlapped to form a white cross.

**To return to the previous menu**  
Press the rocker control up or down until the cursor points to "➤ MENU." Then click the rocker control.

**To return to the main menu**  
Repeat the above, until you reach the main menu.

**To return to the normal screen.**  
Press MENU on the Remote Commander.

## 1-5. SETTING CABLE ON OR OFF

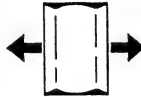
If you have cable connected to the projection TV, follow the steps below to set the cable connection on or off. Set CABLE OFF to preset or watch VHF or UHF channels, and set CABLE ON to preset or watch cable TV channels.

**Note**  
If the projection TV is in video mode, the "CABLE" display is shaded and cannot be selected. Press TV/VIDEO to change to TV mode.

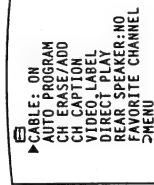
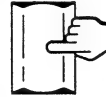
**1** Press MENU.  
The main menu appears.



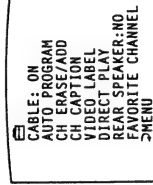
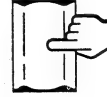
**2** Press the rocker control up or down until the cursor points to "SET UP."



**3** Click the rocker control.  
The set up menu appears, and the cursor points to "CABLE."



**4** Click the rocker control again.  
The mode display turns red.



**Cable TV channel chart\***  
Cable TV systems use letters or numbers to designate channels. To tune in a channel, refer to the chart below.

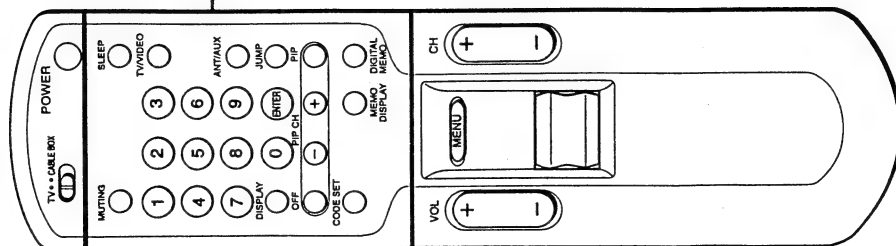
Number on this projection TV	Corresponding CATV channel
1	A-8
5	A-7
6	A-6
14	A
15	B
16	C
17	D
18	E
19	F
20	G
21	H
22	I
23	J
24	K
25	L
26	M
27	N
28	O
29	P
30	Q
31	R
32	S
33	T
34	U
35	V
36	W
37	W+1
38	W+2
39	W+3
...	...
93	W+57
94	W+58
95	A-5
96	A-4
97	A-3
98	A-2
99	A-1
100	W+59
101	W+60
102	W+61
...	...
123	W+82
124	W+83
125	W+84

Check with your local cable TV company for more complete information on the available channels.  
\* The designation of the cable TV channels conforms to the EIA/NTCA recommendation.



## 1-6. PRESETTING TV CHANNELS

By presetting TV channels to the projection TV, you can select channels by pressing CH (CHANNEL) +/-.  
(You can select VHF channels 2 - 13 without presetting.)



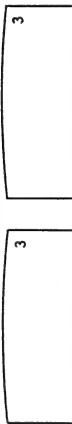
### Presetting all receivable channels automatically

Follow these instructions to preset all the receivable VHF, UHF or cable TV channels to the projection TV.

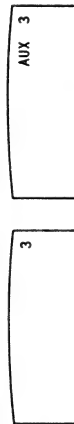
#### Notes

- If the projection TV is in video mode, the "AUTO PROGRAM" display is shaded and cannot be selected. Press TV/VIDEO to change to TV mode.
- Perform auto programming during the day rather than late at night, when some channels may not be broadcasting.

**1** Set the cable connection on or off (pp. 28 - 29) to select the type of channel you want to preset, VHF/UHF or cable TV.



To preset VHF or UHF channels  
To preset VHF, UHF or regular cable TV, or pay cable TV connected to the AUX (auxiliary) terminal.

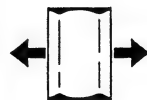


To preset VHF, UHF or regular cable TV channels  
To preset pay cable TV channels

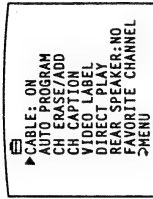
**2** Press MENU.  
The main menu appears.



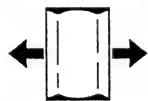
**3** Press the rocker control up or down until the cursor points to "SET UP."



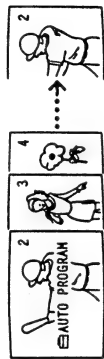
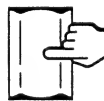
**4** Click the rocker control.  
The set up menu appears.



**5** Press the rocker control up or down until the cursor points to "AUTO PROGRAM."

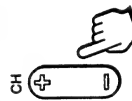


**6** Click the rocker control.



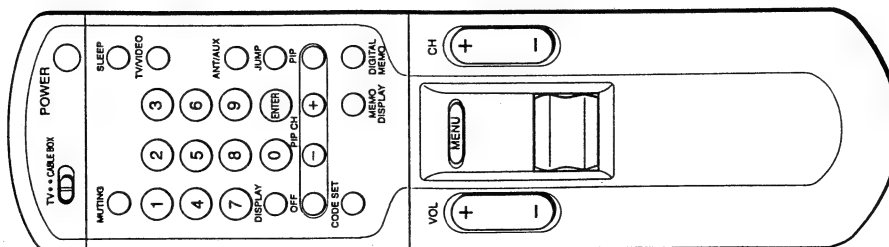
"AUTO PROGRAM" appears on the screen and receivable channels (other than the channels already preset) are preset in numerical sequence. The channels previously preset will not remain in the projection TV's memory.  
When no more channels are found, auto programming stops and the screen returns automatically to the set up menu.

**7** Press CH +/- to check or view the preset channels.



Receivable channels for this projection TV

VHF: 2 - 13  
UHF: 14 - 69  
Cable: 1 - 125



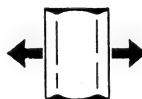
### Erasing TV channels

Follow these instructions to erase unnecessary TV channels, so that when you press CH +/-, the channel(s) are skipped.

**1** Press MENU.  
The main menu appears.



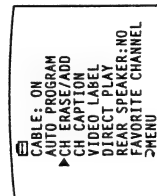
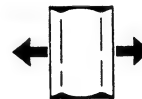
**2** Press the rocker control up or down until the cursor points to "SET UP."



**3** Click the rocker control.  
The set up menu appears.



**4** Press the rocker control up or down until the cursor points to "CH ERASE/ADD."



To erase another channel  
Repeat steps 6 - 7.

To return to the previous menu  
Press the rocker control up or down until the cursor points to "MENU."  
Then click the rocker control.

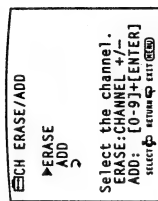
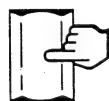
To return to the main menu  
Repeat the above, until you reach the main menu.

To return to the normal screen  
Press MENU on the Remote Commander.

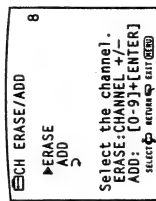
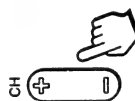
### Note

If you erase a VHF or UHF channel, the same number cable TV channel is also erased (and vice versa).

**5** Click the rocker control.  
The CH ERASE/ADD screen appears, and the cursor points to "ERASE."

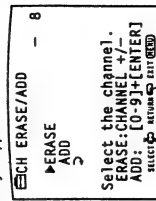
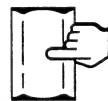


**6** Press CH +/- to select the channel you want to erase.  
The channel display appears.



**7** Click the rocker control.

A "-" sign appears in front of the channel number display, indicating that the channel is erased; then the CH ERASE/ADD screen automatically reappears.



## Adding TV channels

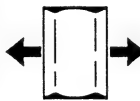
Follow these instructions to add TV channels one by one to the selection memory, or to replace a TV channel you previously erased (pp. 32 - 33).

**1** Press MENU.  
The main menu appears.



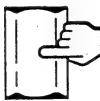
▶PROG. PALETTE  
▶MODE SET  
▶TIME  
▶SET UP  
▶ENGLISH  
▶CONVERGENCE  
SELECT RETURN EXIT

**2** Press the rocker control up or down until the cursor points to "SET UP."



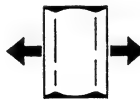
▶PROG. PALETTE  
▶MODE SET  
▶TIME  
▶SET UP  
▶ENGLISH  
▶CONVERGENCE  
SELECT RETURN EXIT

**3** Click the rocker control.  
The set up menu appears.



▶CABLE: ON  
▶AUTO PROGRAM  
▶CH ERASE/ADD  
▶VIDEO LABEL  
▶DIRECT PLAY  
▶REAR SPEAKER: NO  
▶FAVORITE CHANNEL  
▶MENU

**4** Press the rocker control up or down until the cursor points to "CH ERASE/ADD."



▶CABLE: ON  
▶AUTO PROGRAM  
▶CH ERASE/ADD  
▶VIDEO LABEL  
▶DIRECT PLAY  
▶REAR SPEAKER: NO  
▶FAVORITE CHANNEL  
▶MENU

To add another channel  
Repeat steps 7 - 8.

To return to the previous menu  
Press the rocker control up or down until the cursor points to "MENU."  
Then click the rocker control.

To return to the main menu  
Repeat the above, until you reach the main menu.

To return to the normal screen  
Press MENU on the Remote Commander.

### Note

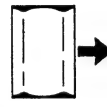
If you add a VHF or UHF channel, the same number cable TV channel is also added (and vice versa).

**5** Click the rocker control.  
The CH ERASE/ADD screen appears.



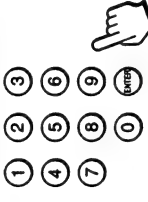
▶CH ERASE/ADD  
▶ERASE  
▶ADD  
Select the channel.  
ERASE-CHANNEL +/-  
ADD: [0-9]+[ENTER]  
SELECT RETURN EXIT

**6** Press the rocker control down until the cursor points to "ADD."



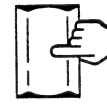
▶CH ERASE/ADD  
▶ERASE  
▶ADD  
Select the channel.  
ERASE-CHANNEL +/-  
ADD: [0-9]+[ENTER]  
SELECT RETURN EXIT

**7** Press 0 - 9 and ENTER on the Remote Commander to select the channel you want to add.  
The channel display appears.



▶CH ERASE/ADD 10  
▶ERASE  
▶ADD  
Select the channel.  
ERASE-CHANNEL +/-  
ADD: [0-9]+[ENTER]  
SELECT RETURN EXIT

**8** Click the rocker control.  
A "+" sign appears in front of the channel number display, indicating that the channel is added; then the CH ERASE/ADD screen automatically reappears.

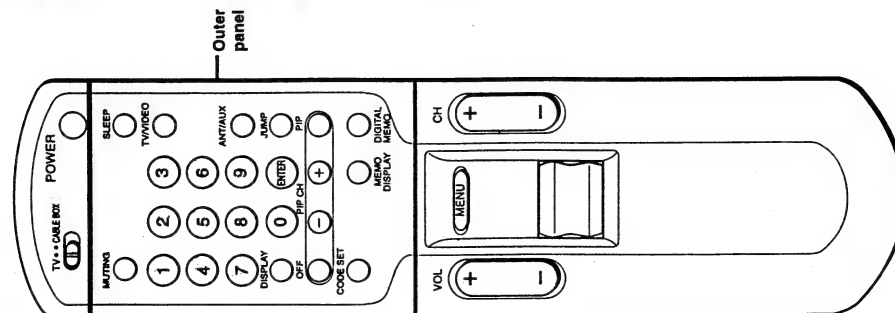


▶CH ERASE/ADD + 10  
▶ERASE  
▶ADD  
Select the channel.  
ERASE-CHANNEL +/-  
ADD: [0-9]+[ENTER]  
SELECT RETURN EXIT

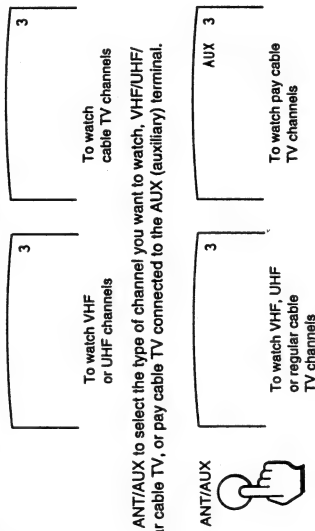
## 1-7. WATCHING TV PROGRAMS

Make sure that the TV/CABLE BOX selector on the Remote Commander is set to TV, in order to control the projection TV with the Remote Commander.

- 1 Press POWER to turn on the projection TV.  
TIMER/STAND BY indicator blinks until the picture appears.



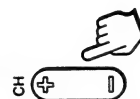
- 2 Set the cable connection on or off (pp. 28 - 29) to select the type of channel you want to watch, VHF/UHF or cable TV.



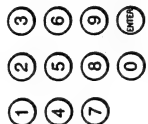
Press ANT/AUX to select the type of channel you want to watch, VHF/UHF/regular cable TV, or pay cable TV connected to the AUX (auxiliary) terminal.

- 3 Select a channel in one of the following two ways:

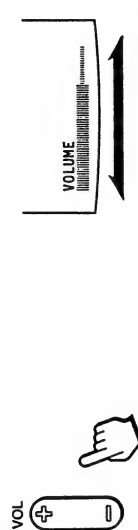
To scan the preset channels in numerical sequence, press CH +/-.



To select a channel directly, press 0 - 9 and then ENTER. For example, to select channel 10, press 1, 0 and ENTER.



- 4 Press VOL +/- to adjust the volume.



Press + to increase the volume.  
Press - to decrease the volume.

If VIDEO 1, VIDEO 2 or VIDEO 3 appears on the screen

Press TV/VIDEO until a TV channel number appears.

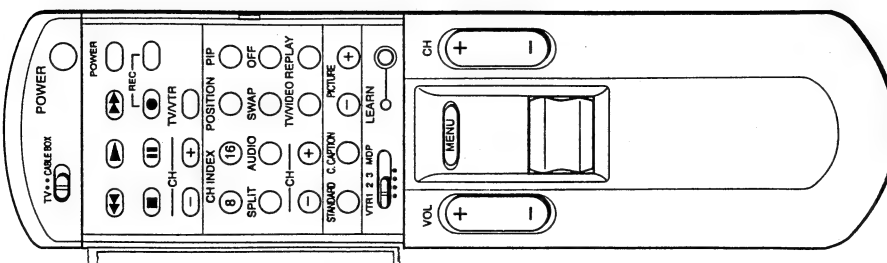
To select channels more easily

Set FAVORITE CHANNEL (pp. 72 - 73).

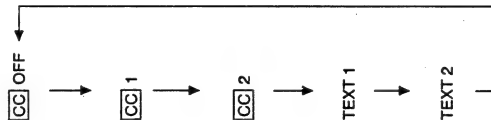
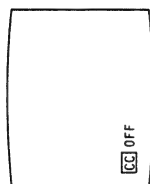
To turn off the projection TV

Press POWER.

## 1-8. USING CLOSED CAPTION



- 1** Press C.CAPTION.  
The closed caption mode appears. CC1, CC2, TEXT1, TEXT2 or CC OFF appears  
In sequence each time you press C.CAPTION.

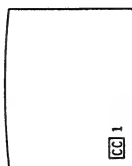


- 2** Press C.CAPTION repeatedly.

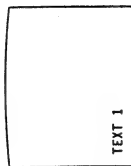
C.CAPTION



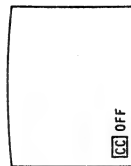
Select CC1 or CC2 to view Captions.  
A Caption is a printed version of the dialogue or sound effects of a program. (The mode should be set to CC1 for most programs.)



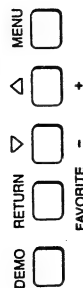
Select TEXT1 or TEXT2 to view Text.  
Text is information that is presented using the half to full television screen. It is usually not related to the program.



Select CC OFF if you don't want to view Closed Caption nor Text.



## 1-9. USING CONVENIENT FEATURES



Front inner panel

### Muting the sound — MUTING

Press **MUTING**.  
"MUTING" appears on the screen.

To restore the sound  
Press **MUTING** again, or press **VOL +**.



### Keeping the displays on-screen — DISPLAY

Press **DISPLAY**.  
All the existing displays appear: channel number, channel caption (if set), MTS mode ("SAP" only), window picture input mode, and the current time ("AM" or "PM") disappears after about three seconds.

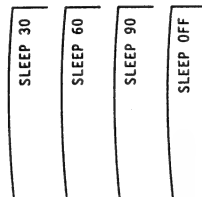
To turn off the displays  
Press **DISPLAY** again.



### Setting the sleep timer — SLEEP

The sleep timer turns off the projection TV automatically after the amount of time you select.

Press **SLEEP**.  
Each time you press **SLEEP**, the time increments "30," "60," "90" and "OFF" mode appear in sequence.



A red "SLEEP" display appears about one minute before the projection TV goes off.

To cancel the setting.  
Press **SLEEP** until OFF mode appears.  
A green "SLEEP OFF" display appears for about three seconds.  
OR  
Turn the projection TV off.  
The sleep timer setting is cancelled.

### Switching quickly between two channels — JUMP

Use this function to keep track of two programs alternately.

To recall the channel you were watching previously  
Press **JUMP**.

To switch back to the first channel  
Press **JUMP** again.



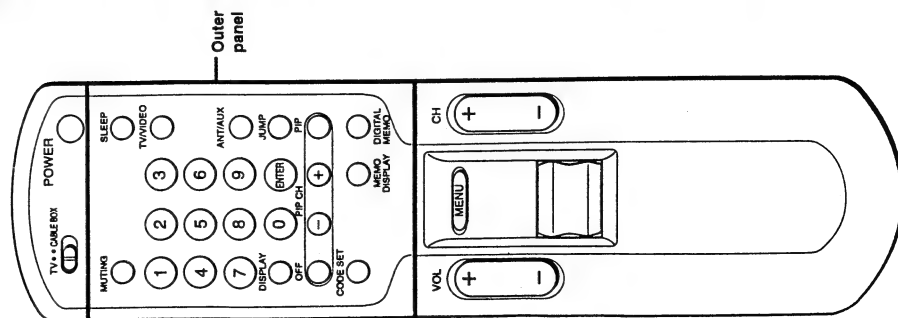
**Note**  
The **JUMP** function also changes the mode to ANT (antenna) or AUX (auxiliary), depending on the mode of the channel you were watching previously.

### Previewing the features — DEMO

Press **DEMO** (front inner panel).  
Functions and menus are displayed one by one.

To restart **DEMO** from the beginning  
Press **DEMO** again.

To stop **DEMO**  
Press any button.

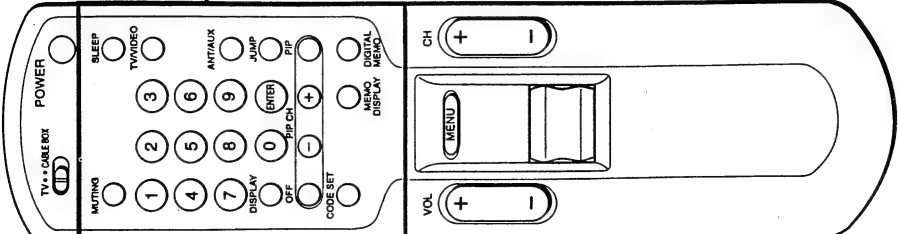


Outer panel

## 1-10. SELECTING A PICTURE AND SOUND MODE

This projection TV features six modes (STANDARD, MOVIE, SPORTS, NEWS, MUSIC, GAME) that offer different picture and sound qualities. Choose the one that best suits the type of program that you want to watch.

**Example:** Select MOVIE mode for picture and sound that gives you the sense of being in a movie theater.



**Outer panel**

**1 Press DIGITAL MEMO.**  
The displayed image is stored in memory, and the image remains still on the screen.

**DIGITAL MEMO**

**2 Press MEMO DISPLAY.**  
The projection TV returns to normal viewing mode.

**MEMO DISPLAY**

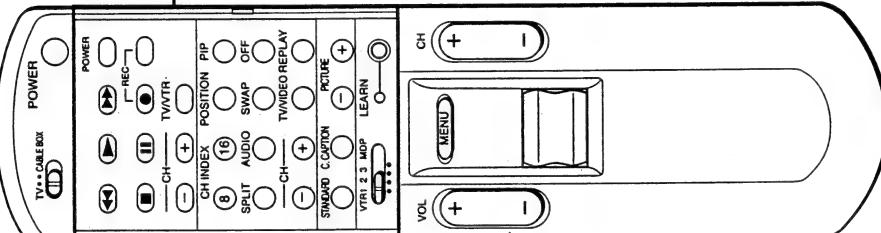
**To recall the stored image**  
Press MEMO DISPLAY.

**MEMO DISPLAY**

The stored picture is retained in memory until:  
- you turn off the projection TV.  
- you press OFF (in the PIP section) twice.  
- you store a different image.

**To return to the normal screen**  
Press MEMO DISPLAY again.

**Note**  
You cannot display a window picture (pp. 45 - 49) while viewing a DIGITAL MEMO screen.



**Inner panel**

**1 Press MENU.**  
The main menu appears, and the cursor points to "PROG PALETTE."

**PROG PALETTE**

**2 Click the rocker control.**  
The program palette menu appears.

**PROGRAM PALETTE**

**3 Press the rocker control up or down until the cursor points to "MOVIE."**

**MOVIE**

**4 Click the rocker control.**  
The "MOVIE" display turns green, indicating that MOVIE mode is selected.

**MOVIE**

**To select a different mode**  
Repeat steps 3 - 4.



## 1-11. WATCHING TWO OR MORE PICTURES AT ONCE (PIP)

**Selecting standard mode (without using the menus)**  
Follow these instructions to select standard mode without using the on-screen menus.

Press STANDARD.

STANDARD

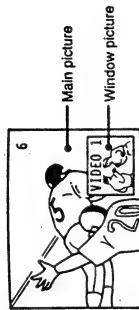


**To return to the previous menu**  
Press the rocker control up or down until the cursor points to "▷ MENU." Then click the rocker control.

**To return to the main menu**  
Repeat the above, until you reach the main menu.

**To return to the normal screen.**  
Press MENU on the Remote Commander.

You can watch both the main picture and one or more window pictures simultaneously, using the Picture-in-Picture (PIP) function.



### Picture-in-Picture special features

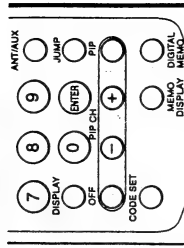
When watching the main picture and a window picture, you can:

- Choose the sound from the main or window picture (AUDIO).
- Change the position of the window picture (POSITION).
- Swap the main and window pictures (SWAP).
- Replay the main picture as a window picture (REPLAY).
- Split the screen, with the main picture on one side and the window picture on the other side (SPLIT).
- Display 8 or 16 TV channels simultaneously (CH INDEX 8/16).

### Displaying a window picture

To turn PIP mode on or off, or to change TV channels, you can use the PIP buttons on the Remote Commander's outer panel. For other PIP functions, use the inner panel controls, which also include the PIP, OFF and CH +/- buttons.

Remote Commander (Outer panel)



Press PIP to display a window picture

Input source mode or TV channel for the main picture



Input source mode or TV channel for the window picture



A window picture appears in the last mode you watched. Each time you press PIP, a 1/4 or 1/9 size window picture appears alternately.

**To turn PIP function off**  
Press OFF.

The window picture disappears.

### To change TV channels in the window picture

Press TV/VIDEO to select TV mode; then press CH +/- in the PIP control area.

### Notes

- You can also use the CH +/- buttons on the Remote Commander's inner panel.
- The video label and channel caption will not appear with the window picture even if you have set them.
- If you select a blocked channel in the window picture, the display "BLOCKED" appears with the window picture. (See "Setting CHANNEL BLOCK," pp. 70 - 71.)
- If you display a DIGITAL MEMO screen (p. 42), the window picture disappears.

**When you select STANDARD mode**  
You receive standard picture and sound quality. Any video or audio adjustments you made ("Adjusting the Picture" pp. 50 - 54; "Adjusting the Sound" pp. 55 - 60) are cancelled and the original factory settings are restored.

**When you select MOVIE mode**  
You receive a finely detailed picture, and a theatrical audio effect. To further adjust picture and sound qualities, follow the instructions on pp. 50 - 54 and pp. 55 - 60, or select different sound modes from the DSP (Digital Sound Processor) menu (pp. 55 - 56).

**When you select SPORTS mode**  
You receive a vivid, bright picture, and sound with a sports stadium effect. To further adjust picture and sound qualities, follow the instructions on pp. 50 - 54 and pp. 55 - 60, or select different sound modes from the DSP (Digital Sound Processor) menu (pp. 55 - 56).

**When you select NEWS mode**  
Picture noise is reduced, and you receive clear voice reproduction. To further adjust picture and sound qualities, follow the instructions on pp. 50 - 54 and pp. 55 - 60, or select different sound modes from the DSP (Digital Sound Processor) menu (pp. 55 - 56).

**When you select MUSIC mode**  
You receive a warmer picture, and live concert effect sound. To further adjust picture and sound qualities, follow the instructions on pp. 50 - 54 and pp. 55 - 60, or select different sound modes from the DSP (Digital Sound Processor) menu (pp. 55 - 56).

**When you select GAME mode**  
The picture is easier on your eyes, and sound has a surround effect. To further adjust picture and sound qualities, follow the instructions on pp. 50 - 54 and pp. 55 - 60, or select different sound modes from the DSP (Digital Sound Processor) menu (pp. 55 - 56).

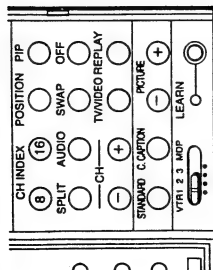
### Caution

Leaving a fixed pattern on the screen for long periods of time, when operating a video game or personal computer, may damage the picture tube. To avoid this, keep the picture contrast and the brightness levels low (PICTURE and BRIGHT adjustment, pp. 50 - 51).

### Changing the window picture input mode

Follow these instructions to select the input mode (TV/ VIDEO 1, VIDEO 2, VIDEO 3) for the window picture.

Remote Commander (inner panel)



**1** Press PIP to display a window picture.



**2** Press TV/VIDEO to select the input mode. Each time you press TV/VIDEO, "TV," "VIDEO 1," "VIDEO 2" and "VIDEO 3" appear in sequence.



To receive the window picture sound Press AUDIO.

The display appears for a few seconds, indicating that the window picture sound is being received.

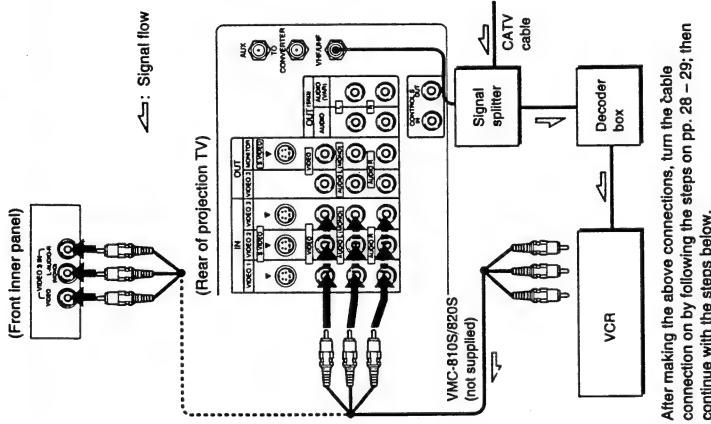
To restore the main picture sound Press AUDIO again.

Note

The window picture sound is also output from the AUDIO (VAR) OUT jacks. The AUDIO OUT and MONITOR OUT jacks output the main picture sound only.

### Displaying CATV input as a window picture

To use Picture-in-Picture with pay cable TV input, make the connections to your cable converter box as shown below.



**1-2** Follow steps 1 - 2 in "Changing the window picture input mode" on this page to select the video input mode for your connected VCR.

**3** Put your VCR on an inactive channel (channel 3 or 4).

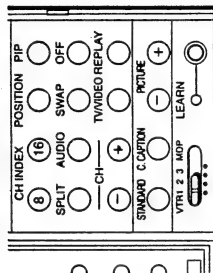
**4** Change pay cable TV channels with the decoder box.

To control your cable converter box with the supplied Remote Commander See p. 78.

### Changing the position of the window picture

Follow these instructions to change the position of the window picture on the screen.

Remote Commander (inner panel)



**1** Press PIP to display a window picture.



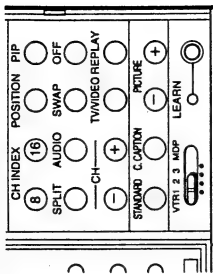
**2** Press POSITION. Each time you press POSITION, the window picture moves as illustrated.



### Swapping the main and window pictures

Follow these instructions to swap the input signals of the main and window pictures.

Remote Commander (inner panel)



**1** Press PIP to display a window picture.



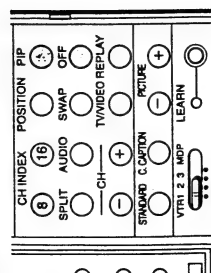
**2** Press SWAP. Each time you press SWAP, the images from the main and window pictures switch places.



### Displaying 8 TV channels at once - CH INDEX 8

Follow these instructions to display the main picture and 7 window pictures at once.

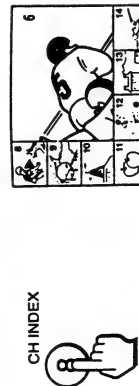
Remote Commander (inner panel)



**1** Press PIP to display a window picture.



**2** Press CH INDEX 8 to display seven window pictures. Seven TV channels appear in numerical sequence, as window pictures.



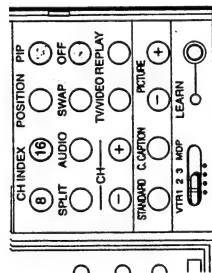
Each time you press CH INDEX 8, the next seven sequential channels appear (the main picture does not change).

To return to the normal screen Press OFF.

### Displaying 16 TV channels at once - CH INDEX 16

Follow these instructions to display 16 window pictures at once.

Remote Commander (inner panel)



**1** Press PIP to display a window picture.



**2** Press CH INDEX 16 to display 16 window pictures. 16 TV channels appear in numerical sequence, as window pictures.



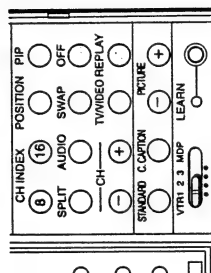
Each time you press CH INDEX 16, the next 16 sequential channels appear (the main picture does not change).

To return to the normal screen Press OFF.

### Replaying the main picture as a window picture

Follow these instructions to replay the image that appeared in the main picture two seconds before, as a window picture.

Remote Commander (inner panel)



Press REPLAY.

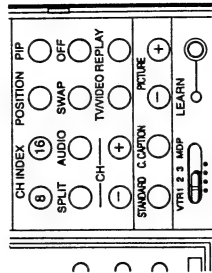


To return to the normal screen Press OFF.

### Splitting the screen

Follow these instructions to split the screen, with the window picture on the left, and the main picture on the right.

Remote Commander (inner panel)



Press SPLIT.



To return to the normal screen Press OFF.

**Note**  
When using SPLIT, vertical lines may appear elongated.

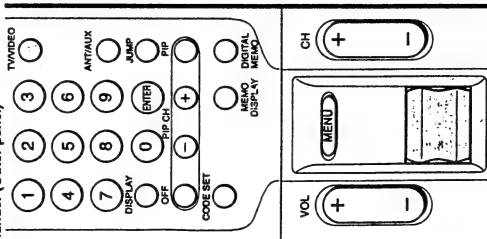
## 1-12. ADJUSTING THE PICTURE

You can adjust the picture (and sound, pp. 57 - 58) for each input mode (TV, VIDEO 1, VIDEO 2, VIDEO 3) by pressing TV/VIDEO on the projection TV or on the Remote Commander to select the input mode, before making the adjustments. These adjustments are retained in memory even when you turn off the projection TV, but are cancelled after you change the adjustments, or select a picture and sound mode (pp. 43 - 44).

### Adjusting picture quality

Follow these instructions to adjust PICTURE, HUE, COLOR, BRIGHT (brightness) and SHARP (sharpness).

Remote Commander (Outer panel)



**1** Press MENU.  
The main menu appears, and the cursor points to "PROG PALETTE".



**2** Click the rocker control.  
The program palette menu appears.



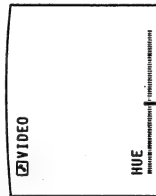
**3** Press the rocker control up or down until the cursor points to "VIDEO".

**4** Click the rocker control.  
The VIDEO screen appears.



**5** Press the rocker control up or down until the cursor points to the item you want to adjust.

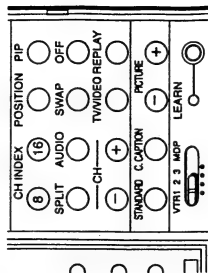
**6** Click the rocker control.  
The adjustment screen appears.



To adjust other items  
Repeat steps 5 - 8.

To restore the factory settings for all the items  
Select "STANDARD" on the program palette menu, and click the rocker control;  
or, press STANDARD on the Remote Commander.  
All the items, including TRINITONE (p. 52) and NR (p. 53) return to their original factory settings.

To adjust picture contrast  
You can also adjust picture contrast with the PICTURE +/- buttons on the Remote Commander.  
(inner panel)



Press + to increase picture contrast with vivid color.  
Press - to decrease picture contrast with soft color.  
The picture adjustment screen appears.

To return to the previous menu  
Press the rocker control up or down until the cursor points to "MENU".  
Then click the rocker control.

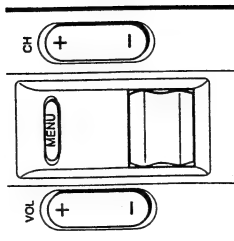
To return to the main menu  
Repeat the above, until you reach the main menu.

To return to the normal screen  
Press MENU on the Remote Commander.

### Setting the TRINITONE mode

Color picture tubes are usually manufactured with a fixed color temperature (tint) that determines the "warmth" (red tint) or "coolness" (blue tint) of the picture. Use the Sony Trinitone feature to adjust the picture color to your preference.

Remote Commander



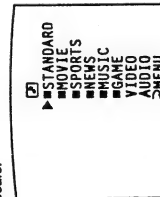
#### 1 Press MENU.

The main menu appears, and the cursor points to "PROG PALETTE."



#### 2 Click the rocker control.

The program palette menu appears.



#### 3 Press the rocker control up or down until the cursor points to "VIDEO."

#### 4 Click the rocker control.

The VIDEO screen appears.



#### 5 Press the rocker control up or down until the cursor points to "TRINITONE."

#### 6 Click the rocker control.

The mode display turns red.

#### 7 Press the rocker control up or down to select "HIGH" or "LOW."

Select "HIGH" to make the picture cool (bluish).  
Select "LOW" to make the picture warm (reddish).

#### 8 Click the rocker control.

The setting is complete.

#### To return to the previous menu

Press the rocker control up or down until the cursor points to "MENU."  
Then click the rocker control.

#### To return to the main menu

Repeat the above, until you reach the main menu.

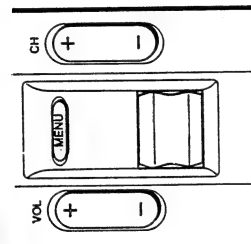
#### To return to the normal screen

Press MENU on the Remote Commander.

### Setting NR (picture noise reduction) ON or OFF

Follow these instructions to reduce picture noise.

Remote Commander



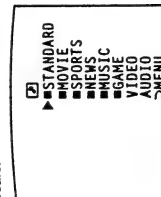
#### 1 Press MENU.

The main menu appears, and the cursor points to "PROG PALETTE."



#### 2 Click the rocker control.

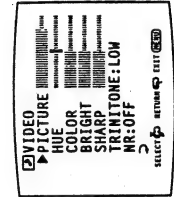
The program palette menu appears.



#### 3 Press the rocker control up or down until the cursor points to "VIDEO."

#### 4 Click the rocker control.

The VIDEO screen appears.



#### To return to the previous menu

Press the rocker control up or down until the cursor points to "MENU."  
Then click the rocker control.

#### To return to the main menu

Repeat the above, until you reach the main menu.

#### To return to the normal screen

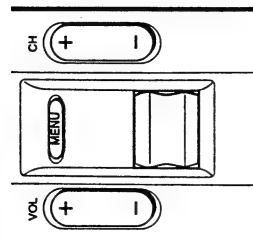
Press MENU on the Remote Commander.

## 1-13. ADJUSTING THE SOUND

### Setting S-VIDEO ON or OFF

Follow these instructions to set S-VIDEO on or off, depending on the kind of video equipment you have connected to the projection TV. For instructions on connecting video equipment, see pp. 15 - 18.

Remote Commander (Outer panel)

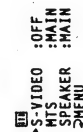


**1** Press MENU.  
The main menu appears.



**2** Press the rocker control up or down until the cursor points to "MODE SET."

**3** Click the rocker control.  
The mode set menu appears, with the cursor pointing to "S-VIDEO."

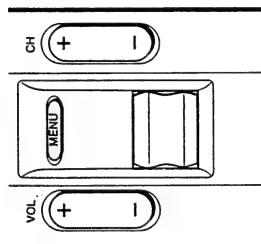


### Selecting a sound mode

Use the DSP (Digital Sound Processor) menu to select the sound mode that best suits the type of sound you are listening to.

Example: Select JAZZ CLUB mode to enhance the effect when viewing a musical performance.

Remote Commander



**1** Press MENU.  
The main menu appears.



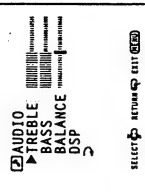
**2** Press the rocker control up or down until the cursor points to "PROG PALETTE."

**3** Click the rocker control.  
The program palette menu appears.



**4** Press the rocker control up or down until the cursor points to "AUDIO."

**5** Click the rocker control.  
The AUDIO screen appears.



**6** Press the rocker control up or down until the cursor points to "DSP."

**7** Click the rocker control.  
The DSP menu appears.



**8** Press the rocker control up or down until the cursor points to "JAZZ CLUB."

**9** Click the rocker control.  
JAZZ CLUB mode is selected.



To select a different mode  
Repeat steps 8 - 9. (See the next page for the different modes you can choose.)

To further adjust the sound  
Follow the instructions on pp. 57 - 58.

To return to the previous menu  
Press AV WINDOW +/- until the cursor points to "> MENU." Then press RETURN.

To return to the main menu  
Repeat the above, until you reach the main menu.

To return to the normal screen.  
Press MENU on the Remote Commander.

**When you select DOLBY SURROUND<sup>®</sup> mode**  
You receive wraparound sound with three-dimensional audio depth and presence when you connect main speakers and optional rear speakers.

**Note**  
You must set REAR SPEAKER to "YES" (p. 60), or the display is blacked out and cannot be selected.  
When using rear speakers, control the volume with the REAR VOLUME adjustment screen.

**When you select SRS AUTO mode**  
You receive powerfully realistic sound that recaptures audio "clues" originally present but masked in the recording process, so that the action seems to happen all around you.

**When you select JAZZ CLUB mode**  
You receive sound that gives a sense of space, with a touch of echo added.


**When you select DANCE CLUB mode**  
You receive the sound effect of the hard floor and wall environment of a dance club.

**When you select LIVE CONCERT mode**  
You receive sound that simulates the effect of being present at a live concert.

**When you select SIMULATED mode**  
You receive monaural sound with a surround-like effect.

**When you select SURROUND OFF mode**  
You receive sound without a surround effect.

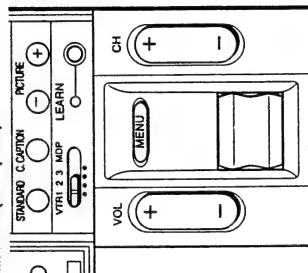
**To further adjust sound qualities**  
Follow the instructions on pp. 57 - 58.

\* Manufactured under license from Dolby Laboratories Licensing Corporation. Additionally licensed under one or more of the following patents: U.S. numbers 3,632,886, 3,746,792 and 3,959,590. "Dolby" and the double-D symbol  are trademarks of Dolby Laboratories Licensing Corporation.

## Adjusting sound quality

Follow these instructions to adjust the TREBLE, BASS and BALANCE.

Remote Commander (inner panel)



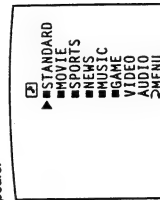
**1** Press MENU.

The main menu appears, and the cursor points to "PROG PALETTE."



**2** Click the rocker control.

The program palette menu appears.



**3** Press the rocker control up or down until the cursor points to "AUDIO."

**4** Click the rocker control.

The AUDIO screen appears.



**5** Press the rocker control up or down until the cursor points to the item you want to adjust.

**6** Click the rocker control.  
The adjustment screen appears.

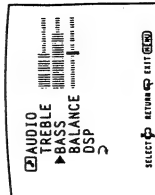


**7** Press the rocker control up or down to make the adjustment.

Sound quality	Press the rocker control down	Press the rocker control up
TREBLE	To decrease the treble response	To increase the treble response
BASS	To decrease the bass response	To increase the bass response
BALANCE	To emphasize the left speaker's volume	To emphasize the right speaker's volume

**8** Click the rocker control.

The adjustment is complete, and the AUDIO screen automatically reappears.



**To adjust other items**

Repeat steps 5 - 9.

**To restore the factory settings for all the items**

Select "STANDARD" on the program palette menu, and click the rocker control; or, press STANDARD on the Remote Commander.

All the items return to their original factory settings.

**To return to the previous menu**

Press the rocker control up or down until the cursor points to "MENU." Then click the rocker control.

**To return to the main menu**

Repeat the above, until you reach the main menu.

**To return to the normal screen**

Press MENU on the Remote Commander.

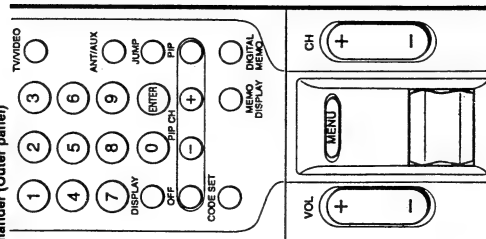


### Selecting an MTS (Multichannel TV Sound) mode

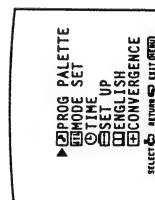
Follow these instructions to select an MTS mode.  
Select MAIN mode to listen to stereo sound.  
The STEREO lamp on the projection TV lights up whenever a stereo broadcast is received.  
Select SAP mode to listen to Second Audio Programs.  
Select MONO mode to eliminate excessive noise during stereo broadcasts, caused by a weak incoming signal.

**Note**  
If the projection TV is in video mode, the "MTS" display is shaded and cannot be selected.  
Press TV/VIDEO on the projection TV or on the Remote Commander to change to TV mode.

#### Remote Commander (Outer panel)

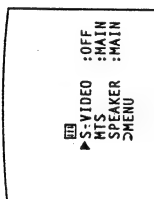


**1** Press MENU.  
The main menu appears.



**2** Press the rocker control up or down until the cursor points to "MODE SET."

**3** Click the rocker control.  
The mode set menu appears.



**4** Press the rocker control up or down until the cursor points to "MTS."

**5** Click the rocker control.  
The mode display turns red.

**6** Press the rocker control up or down to select the mode you want.  
Each time you press the rocker control up or down, "MAIN," "SAP" and "MONO" appear in sequence.

**7** Click the rocker control.  
The mode is selected.

**To return to the previous menu**  
Press the rocker control up or down until the cursor points to "MENU." Then click the rocker control.

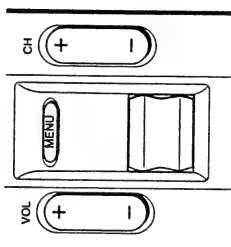
**To return to the main menu**  
Repeat the above, until you reach the main menu.

**To return to the normal screen**  
Press MENU on the Remote Commander.

### Setting SPEAKER — MAIN or CENTER

Follow these instructions to set SPEAKER to "CENTER" when you connect an audio system (p.19), and to "MAIN" when you want to listen to the sound from the projection TV speakers.

#### Remote Commander

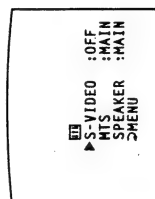


**1** Press MENU.  
The main menu appears.



**2** Press the rocker control up or down until the cursor points to "MODE SET."

**3** Click the rocker control.  
The mode set menu appears.



**4** Press the rocker control up or down until the cursor points to "MAIN SPEAKER."

**5** Click the rocker control.  
The mode display turns red.

**6** Press the rocker control up or down to select "MAIN" or "CENTER."

**7** Click the rocker control.  
The setting is complete.

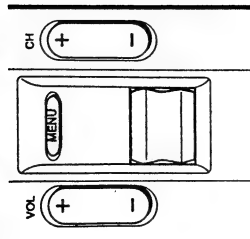
**To return to the previous menu**  
Press the rocker control up or down until the cursor points to "MENU." Then click the rocker control.

**To return to the main menu**  
Repeat the above, until you reach the main menu.

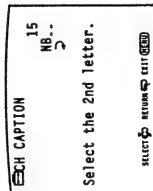
**To return to the normal screen**  
Press MENU on the Remote Commander.



# Setting channel captions - CH CAPTION (Cont'd. from prev. page) Remote Commander

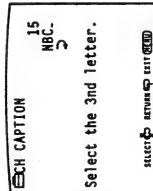


**10** Press the rocker control up or down to select "B."



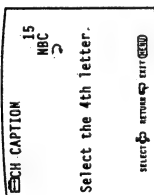
**11** Click the rocker control.  
The third caption space turns red.

**12** Press the rocker control up or down to select "C."



**13** Click the rocker control.  
The fourth caption space turns red.

**14** Press the rocker control up or down to select a blank space.



**15** Click the rocker control.  
The setting is complete.  
When you select or display the channel number, the channel caption also appears.

To caption more channels  
Repeat steps 6 - 15.

To erase unnecessary captions  
Display the CH CAPTION screen, select the channel with the caption you want to erase, and select blank spaces for the channel caption; then click the rocker control.  
The caption for that channel is erased.

To return to the previous menu  
Press the rocker control up or down until the cursor points to "MENU."  
Then click the rocker control.

To return to the main menu  
Repeat the above, until you reach the main menu.

To return to the normal screen  
Press MENU on the Remote Commander.

Note  
You can set up to 32 channel captions. If the memory is full, "The memory is full, sorry" appears on the screen. Erase any unnecessary captions, and begin again.

## Setting VIDEO LABEL

Follow these instructions to label each input mode, in order to identify the equipment connected to each input terminal.

Example: Label VIDEO 1 IN as "VHS."

**1** Press MENU.  
The main menu appears.



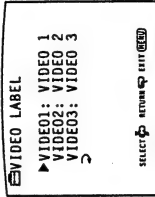
**2** Press the rocker control up or down until the cursor points to "SET UP."

**3** Click the rocker control.  
The set up menu appears.



**4** Press the rocker control up or down until the cursor points to "VIDEO LABEL."

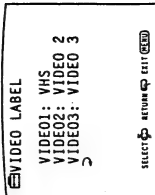
**5** Click the rocker control.  
The VIDEO LABEL screen appears.



**6** Press the rocker control up or down until the cursor points to the input mode you want to label. (In this case, the cursor is already pointing to "VIDEO 1.")

**7** Click the rocker control.  
The label display turns red.

**8** Press the rocker control up or down to select "VHS."



Each time you press the rocker control up or down, the label changes:

VIDEO 1 → BETA → 8mm → VHS → LD → S-VIDEO

**9** Click the rocker control.  
The setting is complete.  
When you select or display the video mode, the video label appears.

To label other input modes  
Repeat steps 6 - 9.  
To change a label  
Same as above.

To return to the previous menu  
Press the rocker control up or down until the cursor points to "MENU." Then click the rocker control.

To return to the main menu  
Repeat the above, until you reach the main menu.

To return to the normal screen  
Press MENU on the Remote Commander.

## 1-15. USING TIMER-ACTIVATED FUNCTIONS

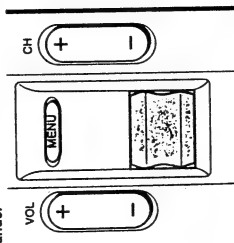
### Setting DAYLIGHT SAVING

If you live in an area that uses daylight savings time, set DAYLIGHT SAVING to "YES" or "NO" depending on the season, before setting the current time. At the next daylight savings date, you will be able to automatically adjust all the time-related settings (CURRENT TIME, ON/OFF TIMER and CHANNEL BLOCK) simply by changing the DAYLIGHT SAVING setting.

#### When setting DAYLIGHT SAVING:

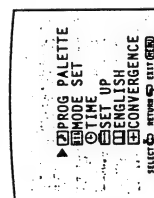
- After the first Sunday in April (spring daylight savings) Set to "YES" before setting the current time. Then, on the last Sunday in October (fall daylight savings), set to "NO."
  - After the last Sunday in October (fall daylight savings) Set to "NO" before setting the current time. Then, on the first Sunday in April (spring daylight savings), set to "YES."
- All the time-related settings automatically move one hour ahead.

#### Remote Commander



Follow these instructions to set DAYLIGHT SAVING to "YES" or "NO."

- Press MENU.  
The main menu appears.



- Press the rocker control up or down until the cursor points to "TIME."

- Click the rocker control.  
The time menu appears.



- Press the rocker control up or down until the cursor points to "DAYLIGHT SAVING."

- Click the rocker control.  
The mode display turns red.

- Press the rocker control up or down to select "YES" or "NO."  
The setting is complete.

- Click the rocker control.

**To return to the previous menu**  
Press the rocker control up or down until the cursor points to "MENU."

Then click the rocker control.

**To return to the main menu**  
Repeat the above, until you reach the main menu.

**To return to the normal screen.**  
Press MENU on the Remote Commander.

### Setting the clock — CURRENT TIME SET

Follow these instructions to set the current time. The correct current time must be set in order to use the other time-related functions (DAYLIGHT SAVING, ON/OFF TIMER, CHANNEL BLOCK).

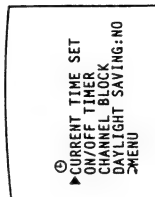
Example: Set the time to 3:15 PM, Monday.

- Press MENU.  
The main menu appears.

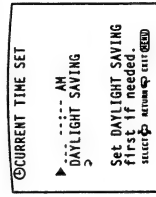


- Press the rocker control up or down until the cursor points to "TIME."

- Click the rocker control.  
The time menu appears, and the cursor points to "CURRENT TIME SET."



- Click the rocker control again.  
The CURRENT TIME SET screen appears, with a reminder to set DAYLIGHT SAVING.



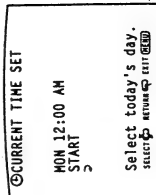
If you do not need to set DAYLIGHT SAVING, click the rocker control and continue from step 5.

### To set daylight saving

- Press the rocker control up or down until the cursor points to "DAYLIGHT SAVING."
  - Click the rocker control.  
The time menu appears, and the cursor points to "DAYLIGHT SAVING."
  - Click the rocker control.
  - Press the rocker control up or down to select "YES" or "NO."
  - Click the rocker control.  
The setting is complete.
- To set the time**  
Press the rocker control up or down until the cursor points to "CURRENT TIME SET"; click the rocker control, then continue from step 5.

- Click the rocker control.  
The CURRENT TIME SET screen appears, and the "SUN" display appears (red).

- Press the rocker control up or down to select "MON." Each time you press the rocker control up or down, the day changes consecutively.

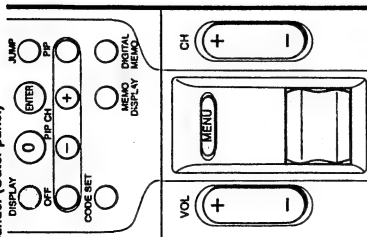


(Continued)

## Setting the clock — CURRENT TIME SET

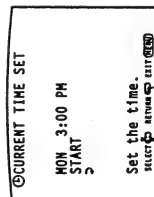
(Cont'd from prev. page)

Remote Commander (Outer panel)



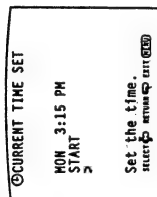
**7** Click the rocker control.  
The hour and am/pm displays turn red.

**8** Press the rocker control up or down to set "3:00PM."  
Each time you press the rocker control up or down, the hour changes in sequence beginning with "12:00AM."



**9** Click the rocker control.  
The minute display turns red.

**10** Press the rocker control up or down to select "15" (minutes).  
Each time you press the rocker control up or down, the minutes change in sequence.



**11** Click the rocker control.  
The cursor points to "START."

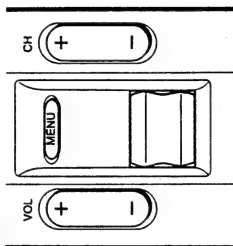
**12** Check the actual time, and click the rocker control to start the clock.  
The setting is complete.

## Setting the ON/OFF TIMER

Follow these instructions to make the program of your choice appear on the screen at a specified time.

**Example:** Set the timer to turn on the projection TV every Monday through Friday at 1:30 AM for 3 hours, on channel 8, as PROGRAM 1. (You can set up to three programs.)

Remote Commander

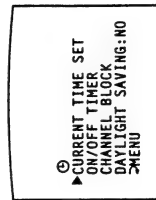


**1** Press MENU.  
The main menu appears.



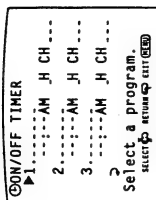
**2** Press the rocker control up or down until the cursor points to "TIME."

**3** Click the rocker control.  
The time menu appears.



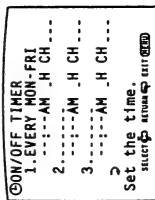
**4** Press the rocker control up or down until the cursor points to "ON/OFF TIMER."

**5** Click the rocker control.  
The ON/OFF TIMER screen appears, and the cursor points to "1."

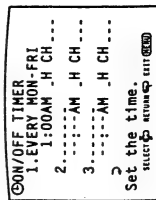


**6** To set program 1, click the rocker control.  
(To set program 2 or 3, press the rocker control up or down until the cursor points to that program; then click the rocker control.)  
The day input space turns red.

**7** Press the rocker control up or down to select "EVERY MON-FRI"; then click the rocker control.  
Each time you press the rocker control up, the days of the week change as shown in Fig. 1 (p. 67).



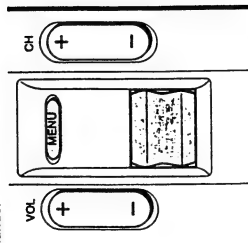
**8** Press the rocker control up or down to select "1:00AM"; then click the rocker control.  
Each time you press the rocker control up or down, the hour changes in sequence.



(Continued)

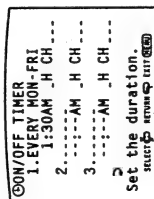
## Setting the ON-OFF TIMER (Cont'd from prev. page)

Remote Commander



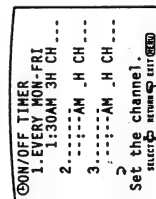
### 9 Press the rocker control up or down to select "30" (minutes);

Then click the rocker control.  
Each time you press the rocker control up or down, the minutes change in sequence.



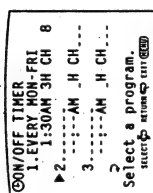
### 10 Press the rocker control up or down to select "3" (hour duration); then click the rocker control.

Each time you press the rocker control up or down, the duration changes from "1" - "6" in sequence.



### 11 Press the rocker control up or down to select "8" (channel); then click the rocker control.

The TIMER/STAND BY indicator lights, indicating that the setting is complete.  
Each time you press the rocker control up or down, the channel number changes from 1 - 125 in sequence.



The display "TV WILL TURN OFF" appears on the screen one minute before the timer duration ends.

#### To set program 2 or 3.

Click the rocker control and repeat steps 6 - 11.

#### To erase an ON/OFF TIMER setting

Display the ON/OFF TIMER screen, select the setting you want to erase, and select the underlined spaces for the day setting.

The ON/OFF TIMER setting is erased.

#### To enter a new ON/OFF TIMER setting

Display the ON/OFF TIMER screen and repeat steps 6 - 11.

#### To return to the previous menu

Press the rocker control up or down until the cursor points to " > MENU."

Then click the rocker control.

#### To return to the main menu

Repeat the above, until you reach the main menu.

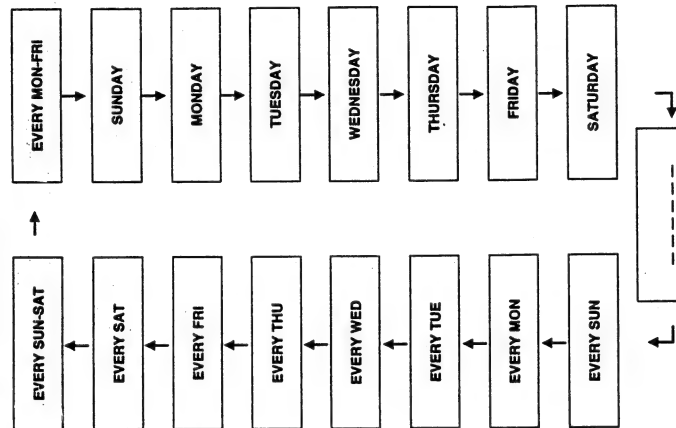
#### To return to the normal screen.

Press MENU on the Remote Commander.

#### Note

If you unplug the projection TV or a power failure occurs, both the clock and timer settings will be erased. Reset the current time; then set the timer.

**Fig. 1**  
Selecting the day(s) of the week  
When you press the rocker control up, the days of the week appear in the following order:

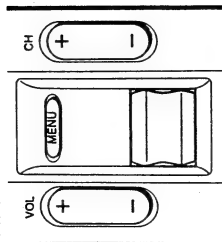


## Setting CHANNEL BLOCK

Follow these instructions to prevent a channel from appearing on the screen during the time that you specify. You can use this function to prevent children from watching unsuitable programs.

**Example:** Set CHANNEL BLOCK every Saturday at 4:30 PM for 1 hour, on Channel 12.

**Remote Commander**



**Note**  
If you have not set the current time, the "CHANNEL BLOCK" display is shaded and cannot be selected.

**1** Press MENU.  
The main menu appears.



**2** Press the rocker control up or down until the cursor points to "TIME".

**3** Click the rocker control.  
The time menu appears.



**4** Press the rocker control up or down until the cursor points to "CHANNEL BLOCK".

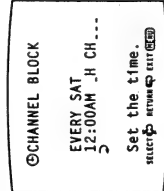
**5** Click the rocker control.  
The CHANNEL BLOCK screen appears, and the cursor points to the day input space.



**6** Click the rocker control.  
The day input space turns red.



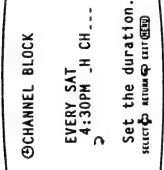
**7** Press the rocker control up or down to select "EVERY SAT", then click the rocker control.  
Each time you press the rocker control up or down, the days of the week change as shown in Fig. 1 (p. 67).



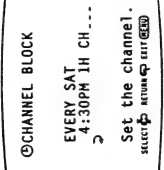
**8** Press the rocker control up or down to select "4:00PM", then click the rocker control.  
Each time you press the rocker control up or down, the hour changes in sequence.



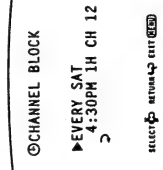
**9** Press the rocker control up or down to select "30" (minutes); then click the rocker control.  
Each time you press the rocker control up or down, the minutes change in sequence.



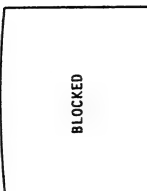
**10** Press the rocker control up or down to select "1" (hour duration); then click the rocker control.  
Each time you press the rocker control up or down, the duration changes from "1" - "6" in sequence.



**11** Press the rocker control up or down to select "12" (channel); then click the rocker control.  
The setting is complete.  
Each time you press the rocker control up or down, the channel number changes from "1" - "125" in sequence.



At the specified time, "BLOCKED" appears in red on the screen, and the picture of the specified channel is blocked and the sound is muted.

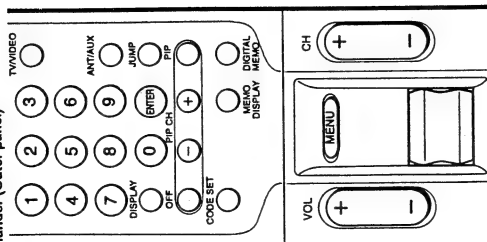




## 1-16. SETTING FAVORITE CHANNEL

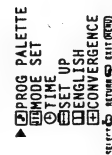
By setting FAVORITE CHANNEL, you can select the channels you use most frequently (up to seven channels) simply by clicking the rocker control on the Remote Commander.

Remote Commander (Outer panel)



Follow these instructions to set the channels.

**1** Press MENU.  
The main menu appears.



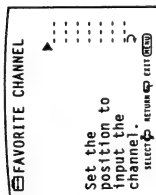
**2** Press the rocker control up or down until the cursor points to "SET UP."

**3** Click the rocker control.  
The set up menu appears.



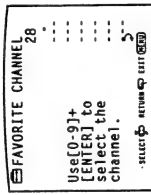
**4** Press the rocker control up or down until the cursor points to "FAVORITE CHANNEL."

**5** Click the rocker control.  
The FAVORITE CHANNEL screen appears, and the cursor points to the first channel position.



**6** Press the rocker control up or down to select the channel position; then click the rocker control.

**7** Press 0 - 9 and ENTER to set the channel number.



**8** Click the rocker control.  
The setting is complete.

To set other channels  
Repeat steps 6 - 8.

To erase a favorite channel setting

Press the rocker control up or down until the cursor points to the channel number you want to erase; click the rocker control, then press 0 and ENTER.

To reset a favorite channel setting  
Display the FAVORITE CHANNEL screen and repeat steps 6 - 8.

To return to the previous menu  
Press the rocker control up or down until the cursor points to "MENU." Then click the rocker control.

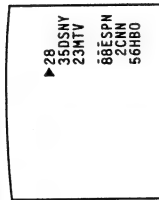
To return to the main menu  
Repeat the above, until you reach the main menu.

To return to the normal screen.  
Press MENU on the Remote Commander.

### Selecting a favorite channel

After setting the channels, follow these instructions to select the channel you want to watch.

**1** Click the rocker control.  
The FAVORITE CHANNEL display appears.



Note  
If you have set channel captions (pp. 61 - 62), the captions appear with the channel numbers.

**2** Press the rocker control up or down to select the channel you want to watch; then click the rocker control.  
The channel is selected.

If you click the rocker control on the Remote Commander before setting FAVORITE CHANNEL, this screen appears.

Set your favorite channels first.  
Please go to SET UP in the menu.

Follow steps 1 - 8 to set your favorite channels, and then make the selection.

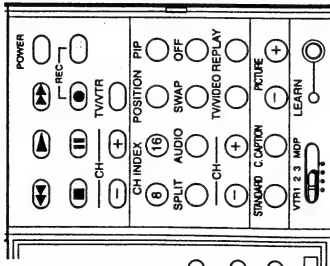
1-17. USING THE PROGRAMMABLE REMOTE COMMANDER

You can operate other video equipment (such as VCRs, video disc players and cable boxes) that have an infrared remote detector with this supplied Remote Commander.

Operating Sony video equipment

Follow these instructions to operate Sony video cassette recorders (Beta, 8 mm and VHS) and video disc players (including multi-disc players).

Remote Commander (inner panel)



1 Set the VTR1-2-3 MDP selector according to the video equipment you want to operate.



Fig. 2: Video equipment settings

If you want to operate a:	set to:
Beta, ED Beta VCR	VTR 1
8 mm VCR	VTR 2
VHS VCR	VTR 3
Video disc player	MDP

2 Use the video operating buttons to control the connected equipment.

Fig. 3: Operating a VCR (VTR1, 2, 3)

To turn on or off	Press POWER. Press CH +/-.
To change channels (when watching TV programs through the VCR's tuner)	Press ● and REC simultaneously.
To record	Press ►.
To play	Press ■.
To stop	Press ►►.
To fast forward	Press ◄◄.
To rewind the tape	Press ◄.
To pause	Press II. To resume normal playback, press again.
To search the picture forward and backward	Keep pressing ►►► or ◄◄◄ during playback. To resume normal playback, release the button.
To change input mode	Press TV/VTR.

Fig. 4: Operating a Video Disc Player (MDP)

To turn on or off	Press POWER.
To play	Press ►.
To stop	Press ■.
To pause	Press II. To resume normal playback, press again.
To search the picture forward and backward	Note This function is effective only for CAV (standard-play disc). With CLV (extended-play disc), the projection TV goes off (standby mode) if you press II. Keep pressing ►►► or ◄◄◄ during playback. To resume normal playback, release the button.

Notes

- If the video equipment does not have a certain function, the corresponding button on this Remote Commander will not operate.
- If you set another manufacturer's code to a VTR1-2-3 MDP selector position (pp. 76 – 77), you must also set the Sony code to operate Sony equipment.

Caution

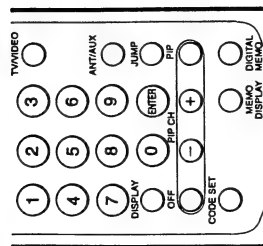
When you replace the batteries, do it within approximately 30 minutes. Otherwise the settings you made under the Pre-Programmed function (pp. 76 – 78) and Learning function (p. 79) may be erased.

# Operating non-Sony or Sony video equipment

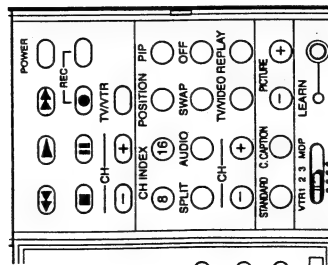
Follow these instructions to set the manufacturer's code, which will enable you to operate non-Sony and Sony video equipment with the pre-programmed Remote Commander.

**Example:** Operate an RCA video cassette recorder connected to the VIDEO 2 IN jacks.

Remote Commander  
(Outer panel)



(Inner panel)



**1** Set the VTR1-2-3 MDP selector to VTR2.



**Note**  
To use another manufacturer's equipment besides a Sony VCR, set the selector to a position not being used for your Sony video equipment.

Fig. 5: VCR manufacturer code numbers

MANUFACTURER	CODE
SONY	01, 02, 03
CANON	05
EMERSON	22, 30, 33
FISHER	10, 11, 12, 15
FUNAI	29
GENERAL ELECTRIC	05, 09
GOLUSTAR	25
HITACHI	07, 08, 36
JVC	16, 35
MAGNAVOX	05, 06, 09
MITSUBISHI	18, 19, 26, 27
MULTITECH	29
NEC	16, 23, 31
PANASONIC	05, 06
PHILCO	05, 06
PHILIPS	05, 06, 09
QUASAR	05, 06
RCA	07, 08
SAMSUNG	24, 32
SANYO	11, 15
SCOTT	21
SHARP	13, 14
SHINTOM	34
SYLVANIA	05, 06, 09
SYMPHONIC	29
TEKNIKA	28, 29
TOSHIBA	20, 21
TOTE VISION	25
ZENITH	17

Fig. 6: MDP manufacturer code numbers

MANUFACTURER	CODE
SONY	04
KENWOOD	58
MAGNAVOX	52
MAPANZ	54
MITSUBISHI	51
PANASONIC	55
PHILIPS	52
PIONEER	51
RCA	51
SANYO	57
SHARP	56
YAMAHA	53

Fig. 7: Sony Equipment and Code Numbers

SONY EQUIPMENT	CODE
Beta, ED Beta VCR	01
8 mm VCR	02
VHS VCR	03
Video disc player	04

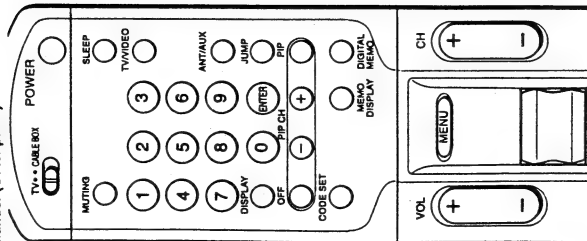
**Note**  
In some rare cases, you may not be able to operate your non-Sony video equipment with the supplied Remote Commander. This is because your equipment may use a code that is not provided with this Remote Commander. In this case, please use the equipment's own remote control unit.

## Operating a cable converter box

Follow these instructions to set the manufacturer's code, which will enable you to operate a connected cable converter box with the pre-programmed Remote Commander.

**Example:** Operate a connected Zenith cable converter box.

Remote Commander (Outer panel)



## 1 Set the TV/CABLE BOX selector to CABLE BOX.



### Notes

- If more than one code number is listed, try entering them one by one, until you come to the correct code for your equipment.
- If you enter a new code number, the code number you previously entered at that setting is erased.
- In some rare cases, your equipment may use a code that is not provided with this Remote Commander and you may not be able to operate your cable converter box with the supplied Remote Commander. In this case, use the equipment's own remote control unit.

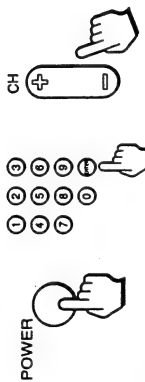
## 2 While pressing CODE SET, press 6 and 8 (Zenith's code number — see Fig. 8) and ENTER.



A long beep sounds, indicating that the code has been set.

**Note**  
If you press a wrong code, or if the code has not been set, four short beeps sound. Repeat step 2 to set the code.

## 3 Use the projection TV control buttons (POWER, 0-9, ENTER and CH +/-) to operate the cable converter box.



**To return to the normal screen**  
Set the TV/CABLE BOX selector to TV; then use the projection TV control buttons to control the projection TV.

**For more details on operating the cable box**  
Refer to the operating instructions that come with the cable box.

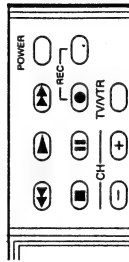
Fig. 8: Cable box manufacturer code numbers

MANUFACTURER	CODE
JERRHOLD	60, 61, 62, 63, 64, 65
PIONEER	69, 70
SCIENTIFIC ATLANTA	66, 67
TOCOM	71, 72
ZENITH	68

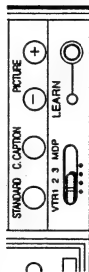
## Operating non-Sony or Sony audio and video equipment (Learning function)

Follow these instructions to "teach" any of the programmable buttons to operate the function of another Remote Commander. Use Learning in order to operate non-Sony and Sony audio equipment, and a remote controlled cable converter box or video equipment whose manufacturer code is not listed (Fig. 5, Fig. 6 - p. 77; Fig. 8 - p. 78).

Remote Commander (inner panel)  
Programmable buttons



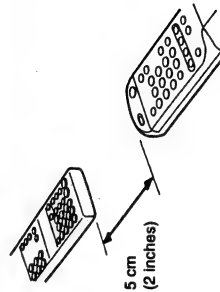
LEARN button and indicator lamp



## 1 Set the VTR1-2-3 MDP selector to VTR3 or MDP. (Learning will not work in VTR1 or VTR2 settings.)



## 2 Place the supplied Remote Commander head to head with equipment's remote commander, approximately 5 cm (2 inches) apart.



## 3 Press LEARN. The LEARN indicator lights up (red).



## 4 Momentarily press the button of the supplied Remote Commander that you want to learn a function. The LEARN indicator goes off and lights up again, and a short beep sounds, indicating that the Remote Commander is ready for learning.

The Remote Commander beeps repeatedly if an error has occurred. Repeat this step.

## 5 Press and hold down the button of the other remote commander, whose function you want to "teach," until the LEARN indicator turns red. A long beep sounds and the LEARN indicator goes off and lights up again, indicating that learning is complete. If not, repeat steps 4 and 5.

## 6 Repeat steps 4 and 5 to teach functions to other buttons.

## 7 Press LEARN. The LEARN indicator lamp lights up (red), then goes off, indicating that learning is complete.

**For accurate learning**  
Do not move the remote commanders during the learning process.

### Notes

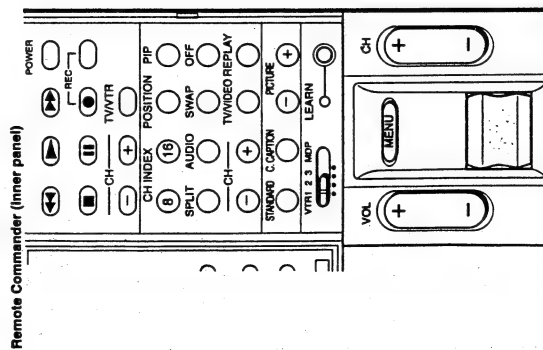
- If the memory is full, three short beeps sound and the LEARN indicator flashes off and on. Use learning to re-program a button whose learned function you do not use often; the previously learned function is erased.
- If the other remote commander's signal cannot be learned, a short beep sounds and the LEARN indicator flashes once.
- If you press a button that cannot be used for learning, four short beeps sound and the LEARN indicator flashes four times.

## Selecting a VCR mode directly — DIRECT PLAY

Follow these instructions to switch from TV to VCR mode by simply pressing the ► (playback) button on the supplied Remote Commander.

**Example:** Connect your VCR to the VIDEO 1 IN jacks, and set the VTR1-2-3 MDP selector to VTR2. When you press ►, the input mode changes to the VCR connected to the VIDEO 1 IN jacks.

After completing the steps below, the VTR selector position is retained in the protection TV's memory.



**Press MENU.**  
*The main menu*

**Press MENU.**  
*The main menu appears.*

2 PROG PALETTE  
 11 MODE SET  
 0 TIME  
 3 SET UP  
 11 ENGLISH  
 12 CONVERGE

**2** Press the rocker control up or down until the cursor points to "SET UP."

**3** Click the rocker control.  
*The set up menu appears.*

**The set up menu appears.**

**CABLE: ON**  
**AUTO PROGRAM**  
**CH ERASE/ADD**  
**CH CAPTION**  
**VIDEO LABEL**  
**DIRECT PLAY**  
**REAR SPEAKER: NO**  
**FAVORITE CHANNEL**

**4** Press the rocker control up or down until the cursor points to "DIRECT PLAY."

**5** Click the rocker control.  
A message screen appears.

**CLICK THE LOCKER CONTROL.  
A message screen appears.**

### INDIRECT PLAY

Program your remote  
with PRESET CODE before  
using DIRECT PLAY  
feature.

**Note**

**note** This screen reminds you to set the manufacturer's code, if you have not already done so (pp. 76 - 78).

**6** Click the rocker control again.  
The *DIRECT PLAY* screen appears.

**Click the rocker control again.**  
**The DIRECT PLAY screen appears.**

**DIRECT PLAY**  
▶ VIDEO1: VTR  
VIDEO2: OFF  
VIDEO3: OFF  
VTR1 2 3 MD

**7** Press the rocker control up or down until the cursor points to the video input mode. (When the video equipment is connected to VIDEO 1 IN, select "VIDEO1.")

## 8

Click the rocker control.  
The mode display turns red.

**9** Press the rocker control up or down to select the VTR selector mode you have set on the Remote Commander. (When the VTR1-2-3 MDP selector is set to VTR2, select "VTR 2.")

Press the rocker control up or down to select the VTR selector mode you have set on the Remote Commander. (When the VTR1-2-3 MDP selector is set to VTR2, select "VTR 2.")

Each time you press the rocker control up or down, "VTR 1," "VTR 2," "VTR 3," "MDP" and "OFF" appear in sequence.

**EDIRECT PLAY**  
 VIDEO1: VTR  
 VIDEO2: OFF  
 VIDEO3: OFF  
 VTR1 2 3 MD  
 SELECT RETURN

# 10

**Click the rocker control.  
The direct play setting is on.**

**To set direct play for other connected video equipment**  
Repeat steps 7 – 10.

**To set direct play for**  
**Repeat steps 7 – 10.**

**To return to the previous menu**

Press the rocker control up or down until the cursor points to "MENU."

Then click the rocker control.

**To return to the main menu**  
Repeat the above, until you reach the main menu.



**Don't forget to use before you order!**

**To return to the normal screen,**

**To return to the normal screen,  
Press MENU on the Remote Commander.**

## 1-18. TROUBLESHOOTING

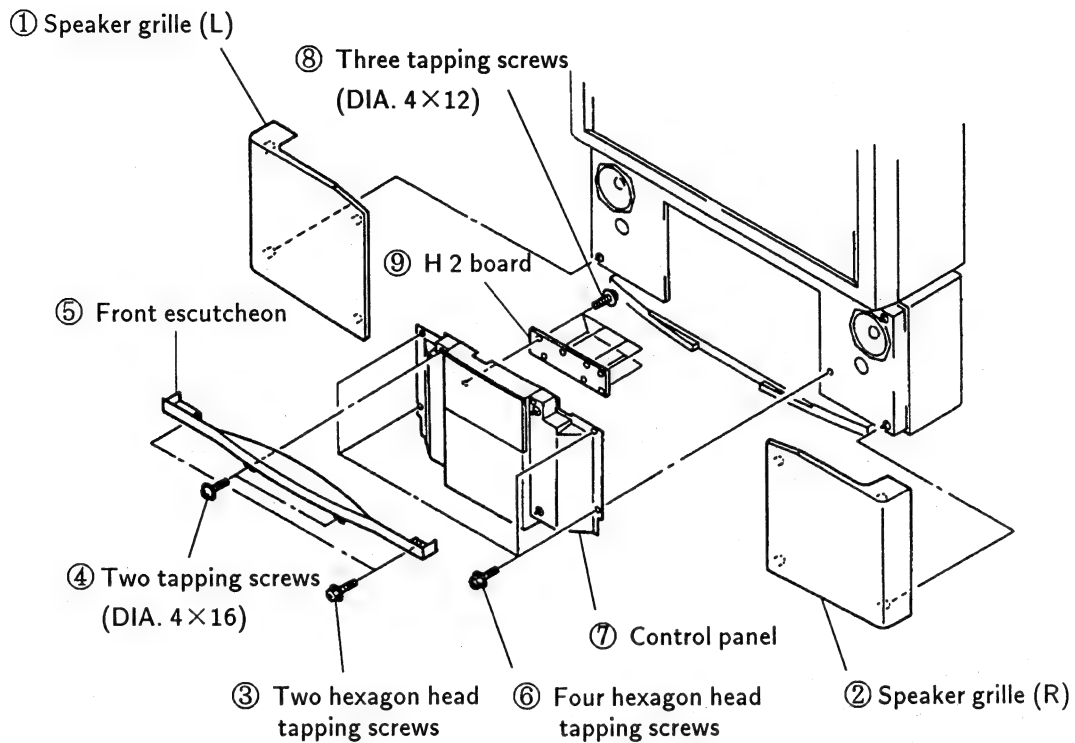
Disturbances in picture and sound can often be eliminated by checking the symptoms and following the suggestions listed here. If the problem still cannot be solved, contact your nearest service facility.

Symptom	Possible causes and remedies
No picture (screen not lit), no sound	<ul style="list-style-type: none"> <li>• Make sure POWER is switched on.</li> <li>• Check the power cord connection.</li> <li>• Check that the TV/VIDEO and VTRI-2-3 MDP controls are set correctly.</li> <li>• Make sure that the TV/CABLE BOX selector is set to TV.</li> </ul>
Poor or no picture (screen not lit), good sound	<ul style="list-style-type: none"> <li>• Adjust the picture using the VIDEO screen (pp. 50 – 53).</li> <li>• Check the antenna/cable connections.</li> <li>• Adjust the color registration (pp. 26 – 27).</li> </ul>
Good picture, no sound	<ul style="list-style-type: none"> <li>• Press VOLUME + on the projection TV or VOL + on the Remote Commander.</li> <li>• Press MUTING on the Remote Commander.</li> <li>• Check the MTS setting (p. 58).</li> <li>• Check that the TV/VIDEO and VTRI-2-3 MDP controls are set correctly.</li> <li>• Make sure SPEAKER is set correctly (p. 59).</li> </ul>
No color for color programs	<ul style="list-style-type: none"> <li>• Check the HUE and COLOR settings (pp. 50 – 51).</li> </ul>
Snow and noise only	<ul style="list-style-type: none"> <li>• Check that it is an active or correct channel.</li> <li>• Check the cable setting.</li> <li>• Check the ANT/AUX button setting.</li> <li>• Check antenna/cable connections.</li> </ul>
 Dotted lines or stripes	<p>This is often caused by local interference (for example, cars, neon signs and hairdryers). Adjust the telescopic aerial for minimum interference.</p>
 Double images or ghosts	<p>Reflections from nearby mountains or buildings often cause this problem. Connecting a highly directional outdoor antenna or a CATV cable may improve the picture.</p>
Remote control does not operate	<ul style="list-style-type: none"> <li>• Check the battery in the Remote Commander.</li> </ul>
No picture and/or sound for the connected equipment	<ul style="list-style-type: none"> <li>• Check that the TV/VIDEO button is set correctly.</li> <li>• Check that the connections are properly made.</li> <li>• Check that the power of the connected equipment is turned on.</li> <li>• Check that the connected equipment is set correctly.</li> </ul>
Try another channel. It could be station trouble.	

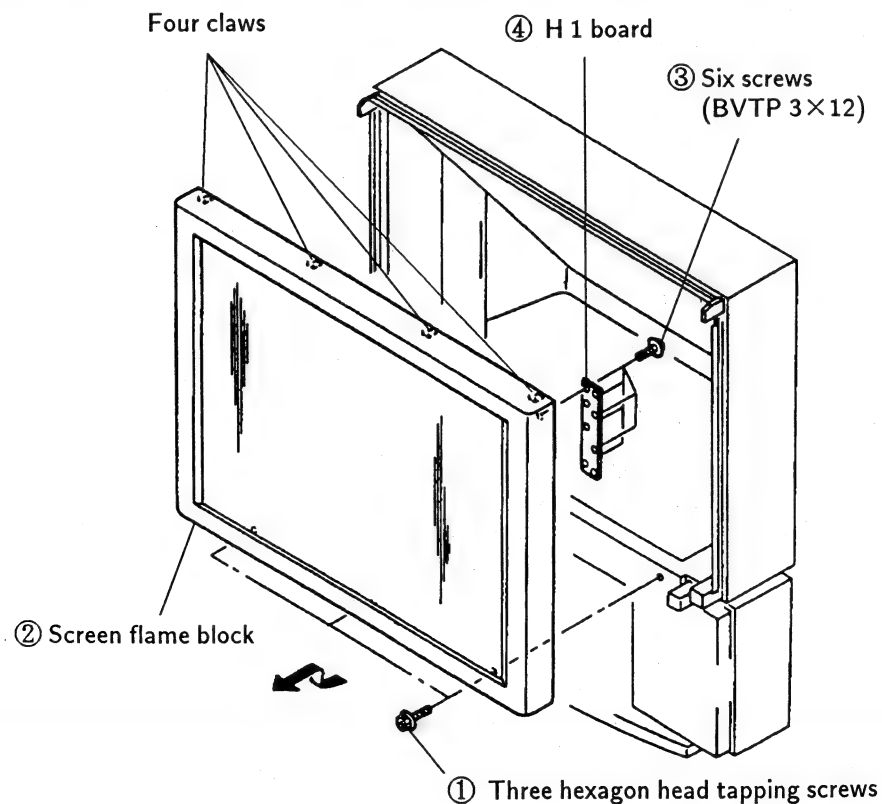
## SECTION 2

### DISASSEMBLY

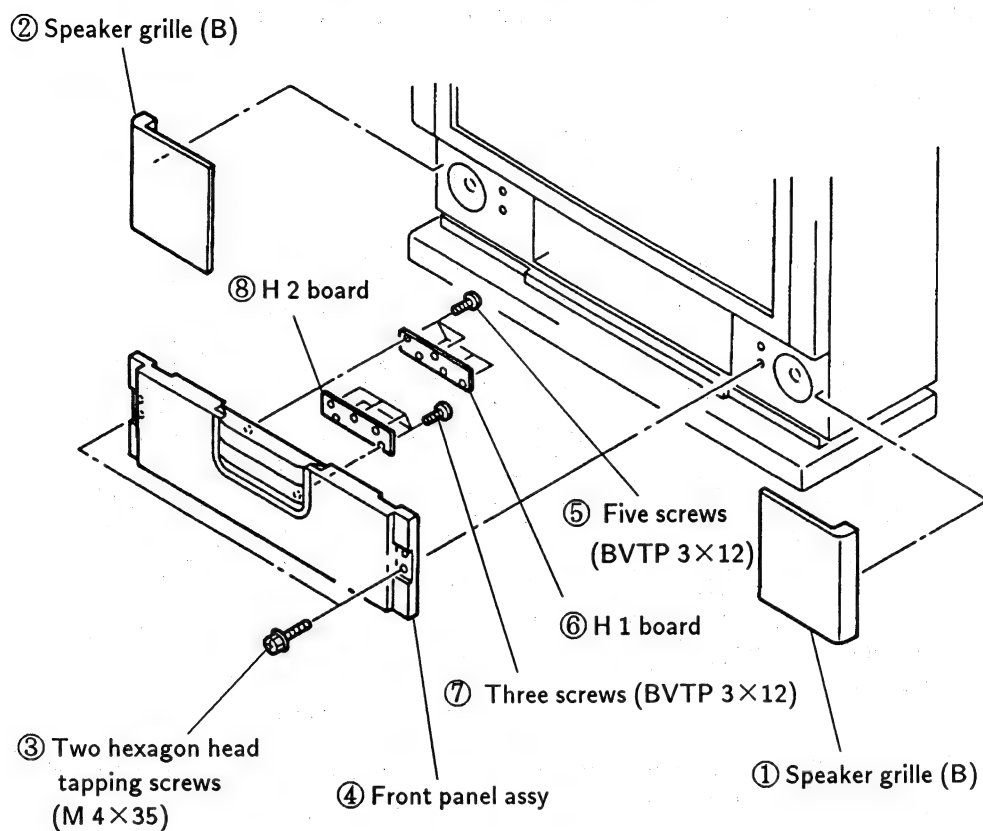
#### 2-1. H 2 BOARD REMOVAL (KP-46 XBR 25/53 XBR 25 (US/CND) only)



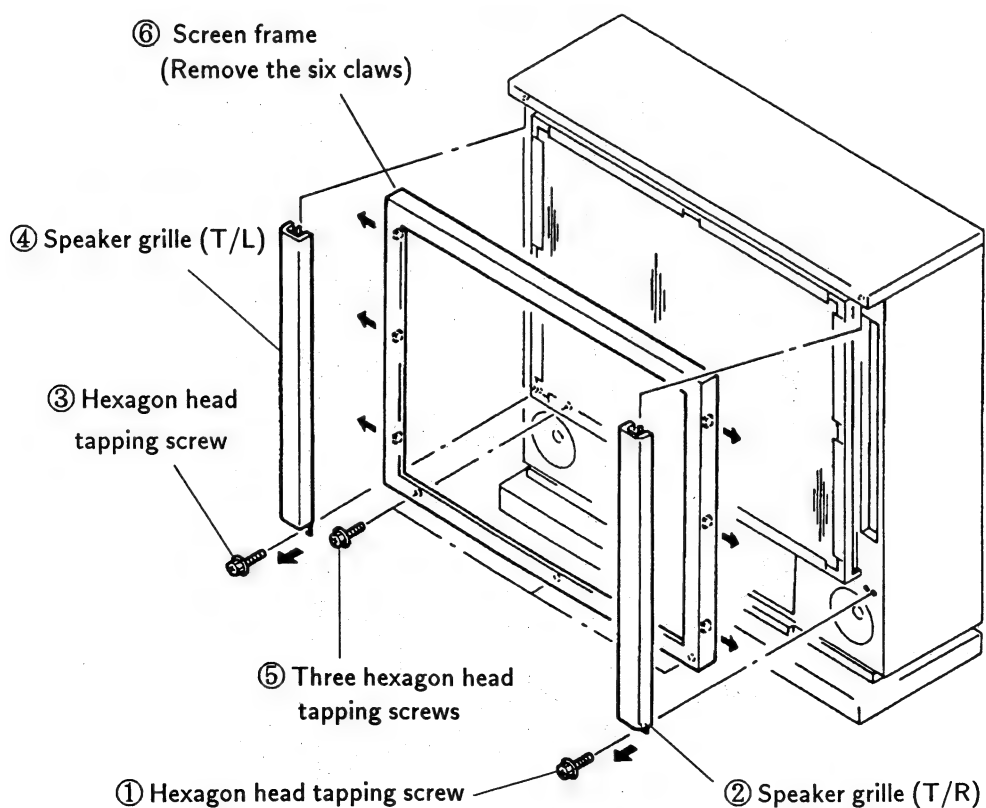
#### 2-2. H 1 BOARD REMOVAL (KP-46 XBR 25/53 XBR 25 (US/CND) only)



### 2-3-1. H 1 AND H 2 BOARDS REMOVAL (KP-61 XBR 28 only)

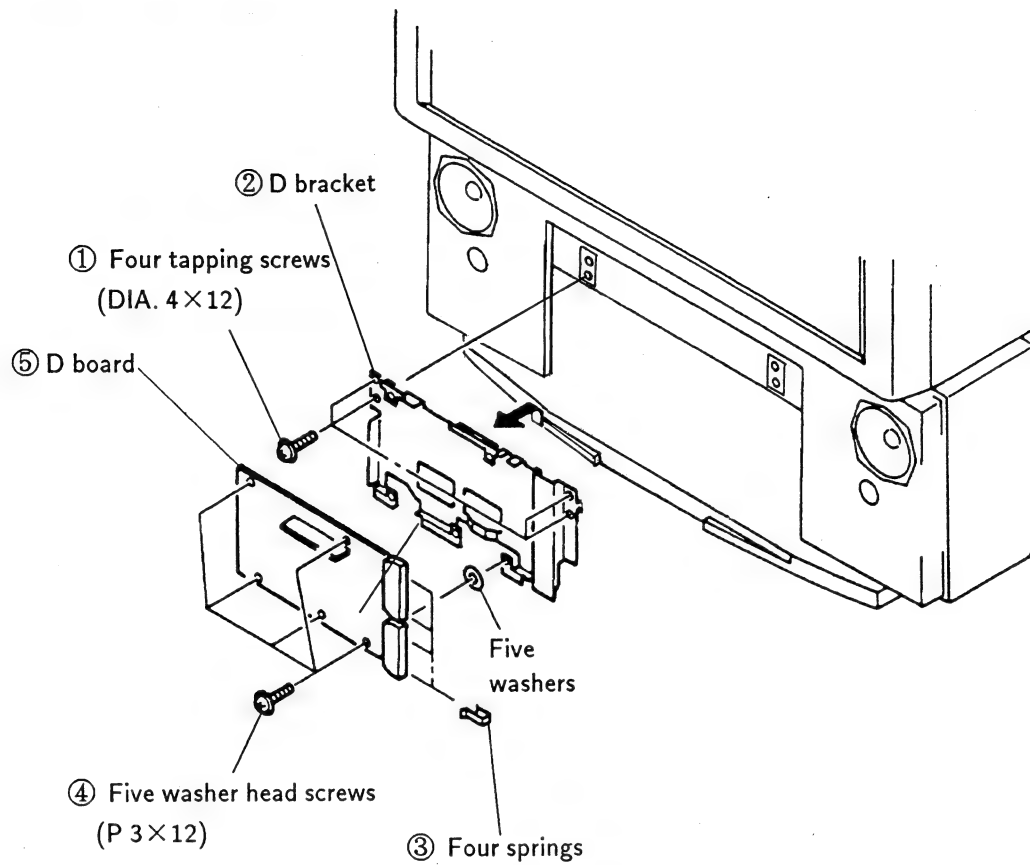


### 2-3-2. SCREEN FRAME REMOVAL (KP-61 XBR 28 only)

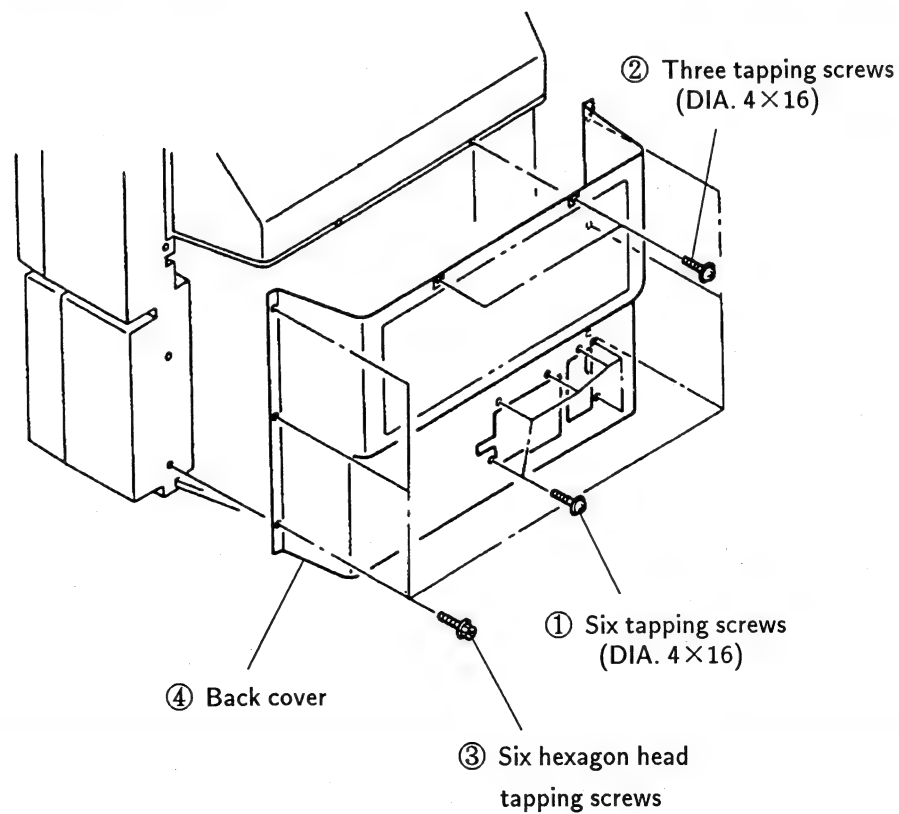




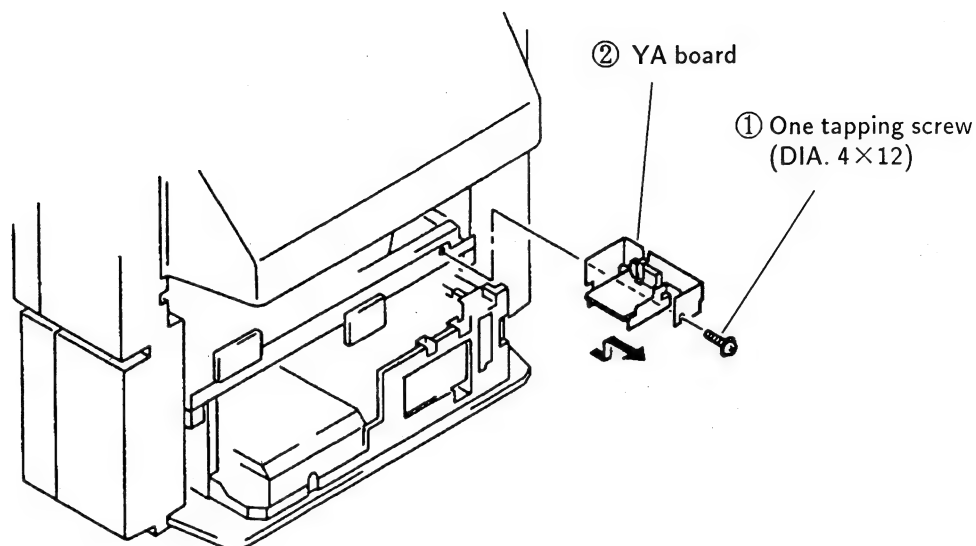
## 2-4. D BOARD REMOVAL



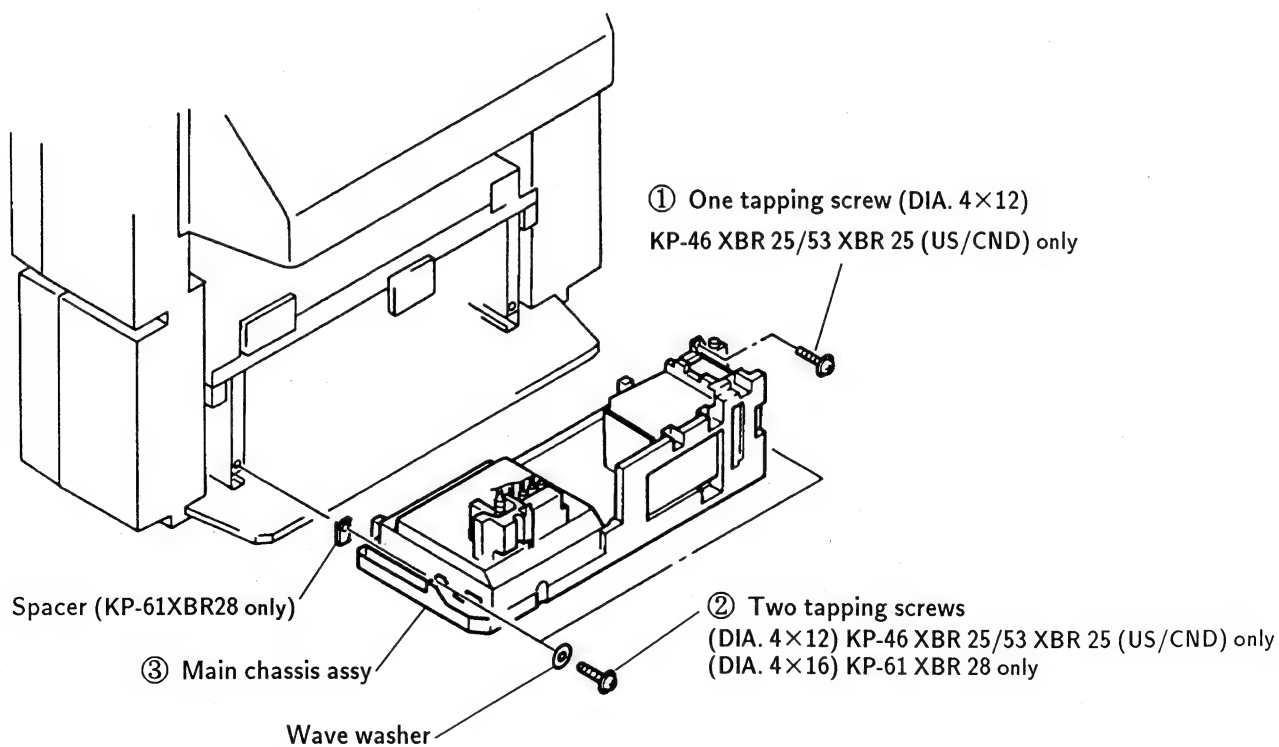
## 2-5. BACK COVER REMOVAL



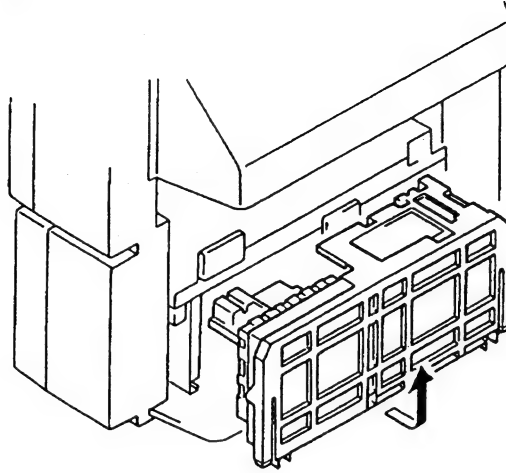
## 2-6. YA BOARD REMOVAL



## 2-7. MAIN CHASSIS ASSY REMOVAL



## 2-8. SERVICE POSITION



### NOTES INSERTED IN SERVICE POSITION SECTION

#### Service Position Procedure

- (1) Remove the path locks where the harness comes into.  
(MAIN bracket, G shield)
- (2) Remove the following connectors before removing the main bracket.  
\* HV grounding lead, G shield grounding lead, uT35 grounding lead (uT board), V-2 connector (V board).
- (3) Remove the main bracket. (Take care as the connector leads linking to the C and Z boards are considerably short.)  
(MAIN bracket, G shield)
- (4) When pulling out the main bracket with power ON, be sure to connect the connectors removed.  
\* HV grounding lead, G shield grounding lead, uT35 grounding lead (uT board).

**In case that grounding lead (Black) of HV Block is not connected with chassis grounding, it causes arcing of CRT and it is dangerous.**

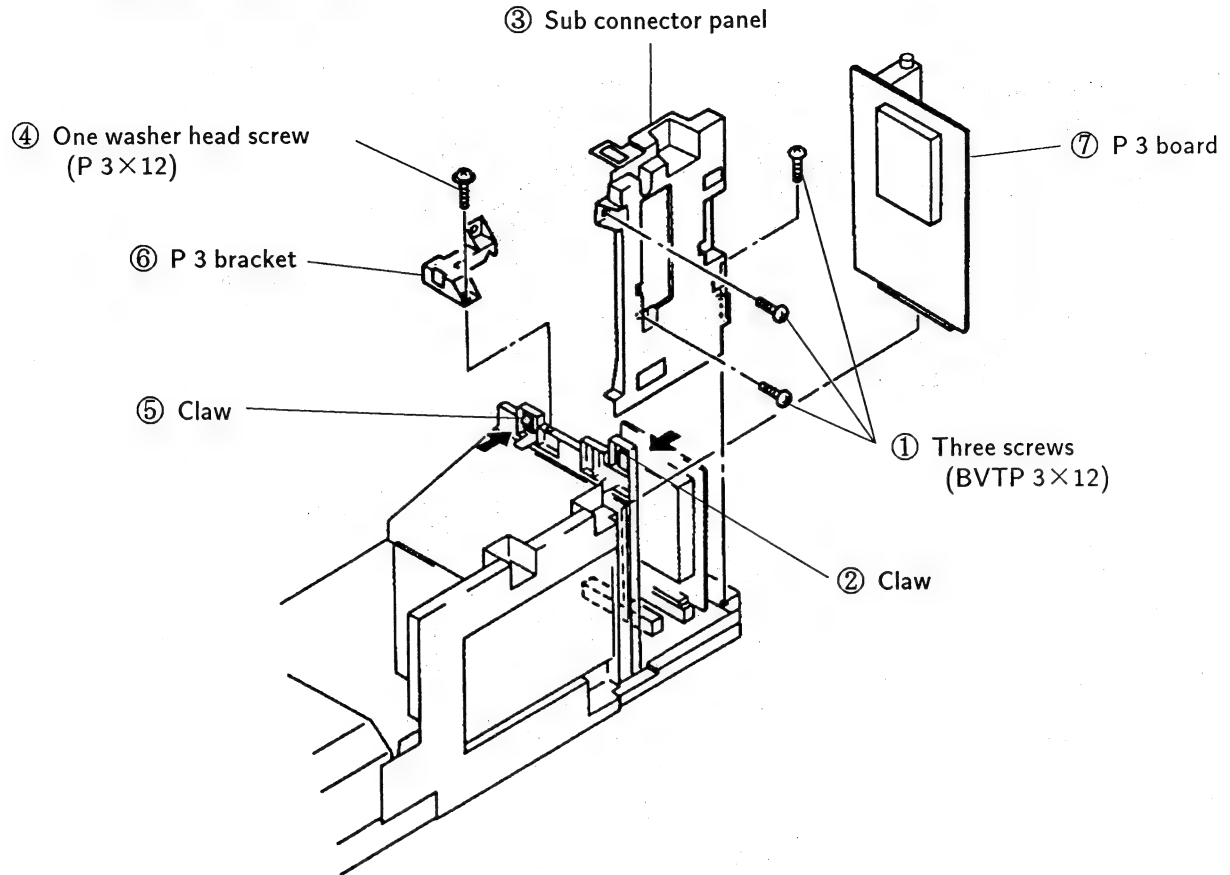
**Be sure to connect grounding lead of HV Block with chassis grounding.**

# CONNECTOR CABLES

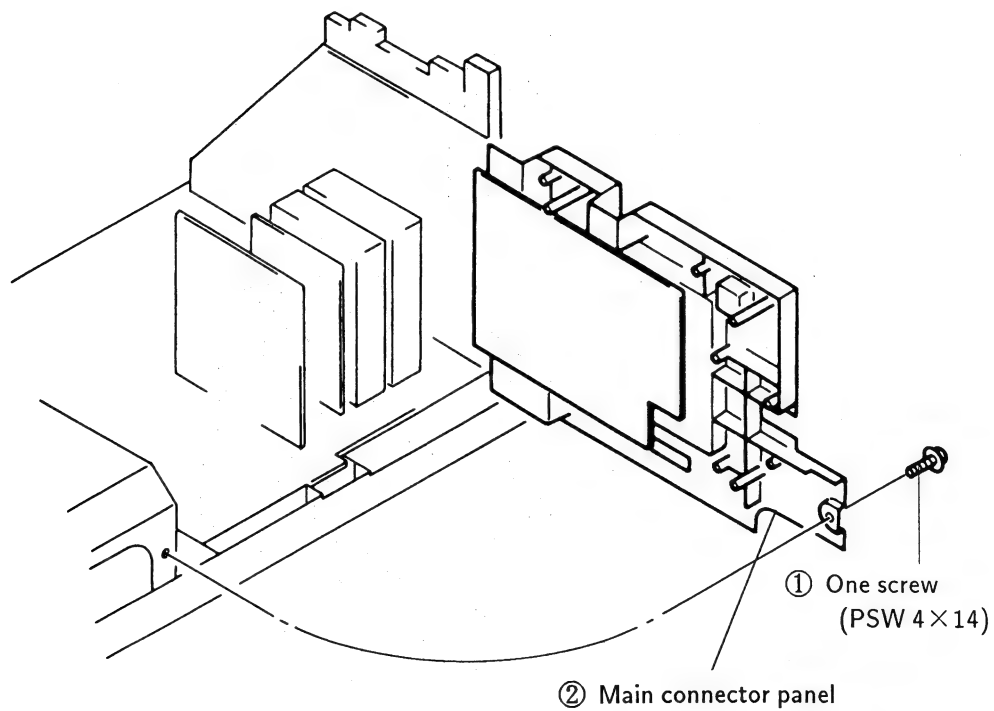
✕ In order to put the set in the service position, use the extension connector cables below.

<table> <tr> <th>Parts No.</th><th>Connection</th></tr> <tr> <td>1-941-897-38</td><td>CB-4 (G-4)</td></tr> </table> <p>1: Brown 2: — 3: — 4: Yellow 5: Green 6: — 7: — 8: Gray</p> <p>White L=140 White</p>	Parts No.	Connection	1-941-897-38	CB-4 (G-4)	<table> <tr> <th>Parts No.</th><th>Connection</th></tr> <tr> <td>1-941-897-43</td><td>CR-15 (A-15)</td></tr> </table> <p>1: White/Gray 2: Gray/Shield 3: Orange 4: Red/Gray 5: Gray/Shield</p> <p>Red L=180 Red</p>	Parts No.	Connection	1-941-897-43	CR-15 (A-15)
Parts No.	Connection								
1-941-897-38	CB-4 (G-4)								
Parts No.	Connection								
1-941-897-43	CR-15 (A-15)								
<table> <tr> <th>Parts No.</th><th>Connection</th></tr> <tr> <td>1-941-897-39</td><td>CG-16 (A-16)</td></tr> </table> <p>1: White/Gray 2: Gray/Shield 3: Orange 4: Red/Gray 5: Gray/Shield</p> <p>Yellow L=110 Yellow</p>	Parts No.	Connection	1-941-897-39	CG-16 (A-16)	<table> <tr> <th>Parts No.</th><th>Connection</th></tr> <tr> <td>1-941-897-44</td><td>ZR-1 (D-1)</td></tr> </table> <p>1: Brown 2: Red 3: Orange 4: Yellow 5: Green 6: Blue 7: Violet</p> <p>White L=150 White</p>	Parts No.	Connection	1-941-897-44	ZR-1 (D-1)
Parts No.	Connection								
1-941-897-39	CG-16 (A-16)								
Parts No.	Connection								
1-941-897-44	ZR-1 (D-1)								
<table> <tr> <th>Parts No.</th><th>Connection</th></tr> <tr> <td>1-941-897-40</td><td>ZG-19 (A-19)</td></tr> </table> <p>1: Green 2: — 3: Black 4: — 5: Brown</p> <p>White L=150 White</p>	Parts No.	Connection	1-941-897-40	ZG-19 (A-19)	<table> <tr> <th>Parts No.</th><th>Connection</th></tr> <tr> <td>1-941-897-45</td><td>A-21 (CRT BRACKET)</td></tr> </table> <p>1: Black 2: Black</p> <p>White L=40 White</p>	Parts No.	Connection	1-941-897-45	A-21 (CRT BRACKET)
Parts No.	Connection								
1-941-897-40	ZG-19 (A-19)								
Parts No.	Connection								
1-941-897-45	A-21 (CRT BRACKET)								
<table> <tr> <th>Parts No.</th><th>Connection</th></tr> <tr> <td>1-941-897-41</td><td>ZR-18 (A-18)</td></tr> </table> <p>1: Red 2: — 3: Black 4: — 5: Brown</p> <p>White L=150 White</p>	Parts No.	Connection	1-941-897-41	ZR-18 (A-18)	<table> <tr> <th>Parts No.</th><th>Connection</th></tr> <tr> <td>1-941-897-46</td><td>V-2 (ZR-3)</td></tr> </table> <p>1: Brown 2: — 3: Red</p> <p>Red L=200 Red</p>	Parts No.	Connection	1-941-897-46	V-2 (ZR-3)
Parts No.	Connection								
1-941-897-41	ZR-18 (A-18)								
Parts No.	Connection								
1-941-897-46	V-2 (ZR-3)								
<table> <tr> <th>Parts No.</th><th>Connection</th></tr> <tr> <td>1-941-897-42</td><td>ZG-2 (D-2)</td></tr> </table> <p>1: — 2: Red 3: Orange 4: Yellow 5: Green 6: Blue 7: Violet 8: Gray</p> <p>White L=130 White</p>	Parts No.	Connection	1-941-897-42	ZG-2 (D-2)	<table> <tr> <th>Parts No.</th><th>Connection</th></tr> <tr> <td>1-941-897-47</td><td>A-3 (YG-3)</td></tr> </table> <p>1: Red 2: White 3: Gray/Shield 4: Black</p> <p>Red L=100 Red</p>	Parts No.	Connection	1-941-897-47	A-3 (YG-3)
Parts No.	Connection								
1-941-897-42	ZG-2 (D-2)								
Parts No.	Connection								
1-941-897-47	A-3 (YG-3)								

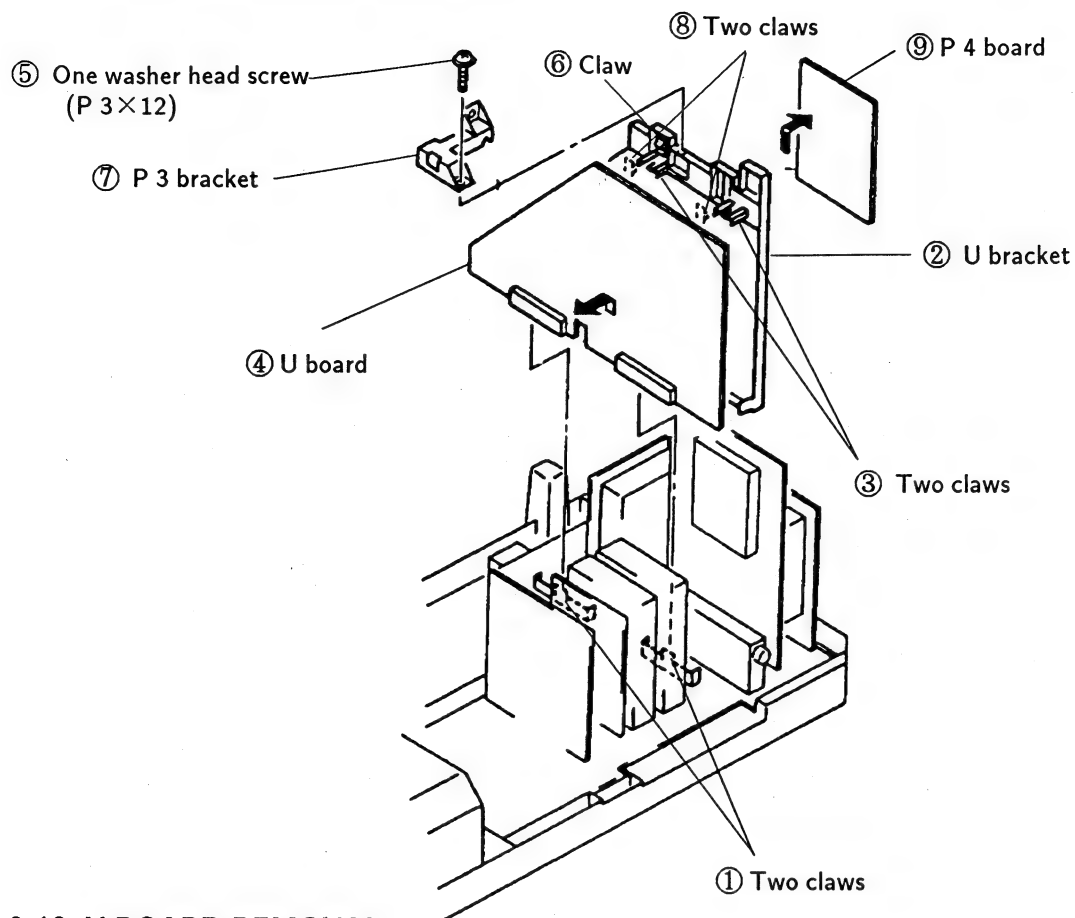
## 2-9. P 3 BOARD REMOVAL



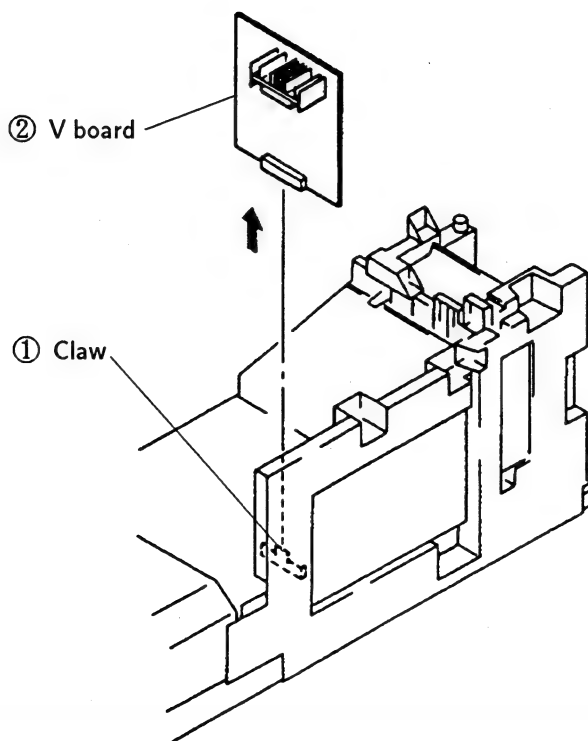
## 2-10. MAIN CONNECTOR PANEL REMOVAL



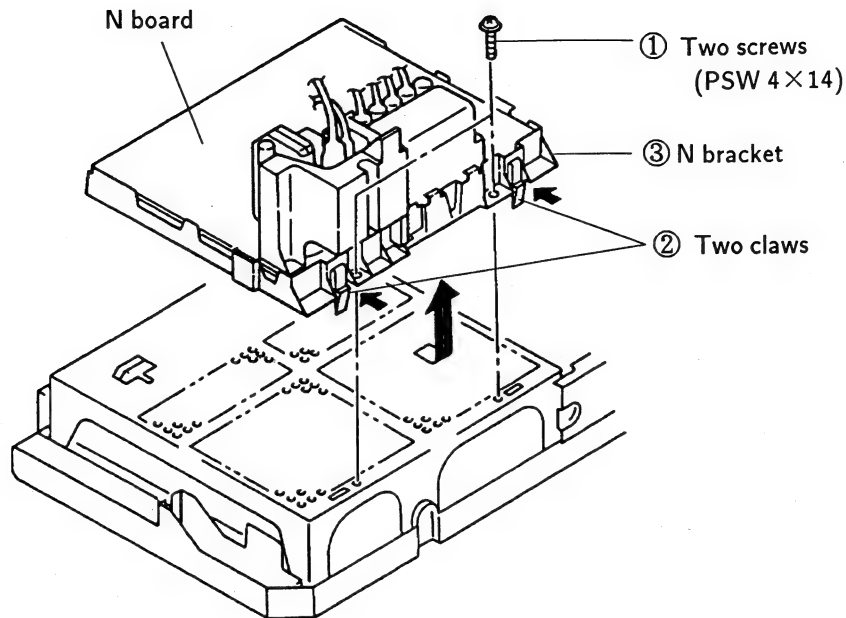
## 2-11. U AND P 4 BOARDS REMOVAL



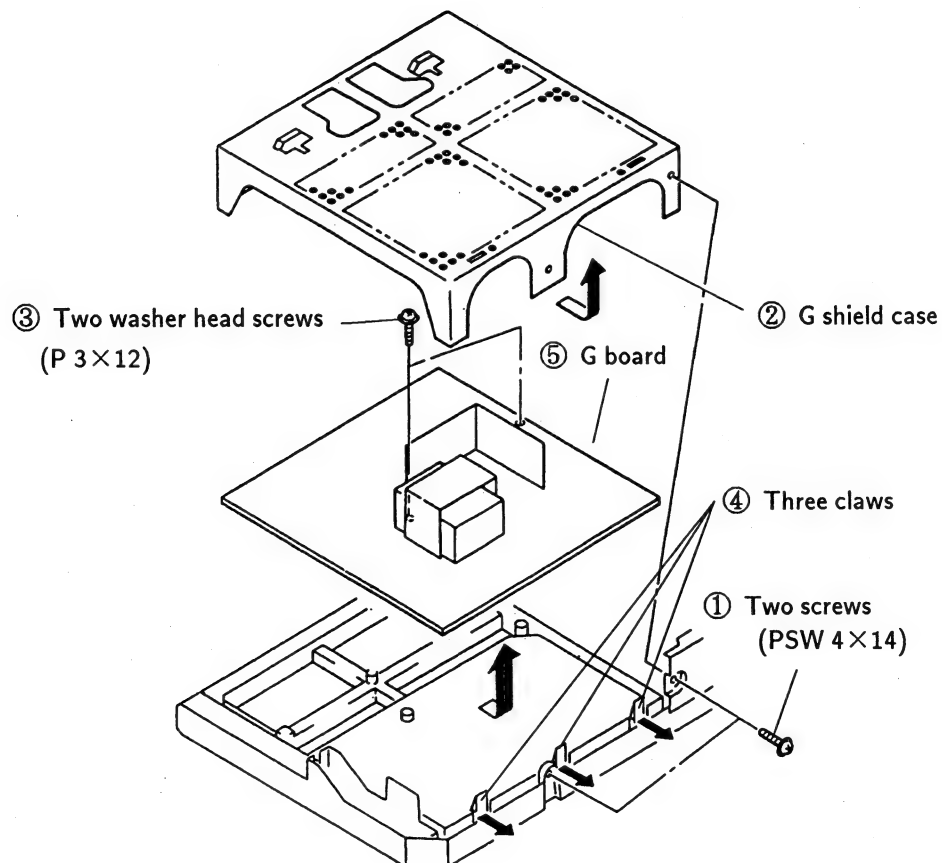
## 2-12. V BOARD REMOVAL



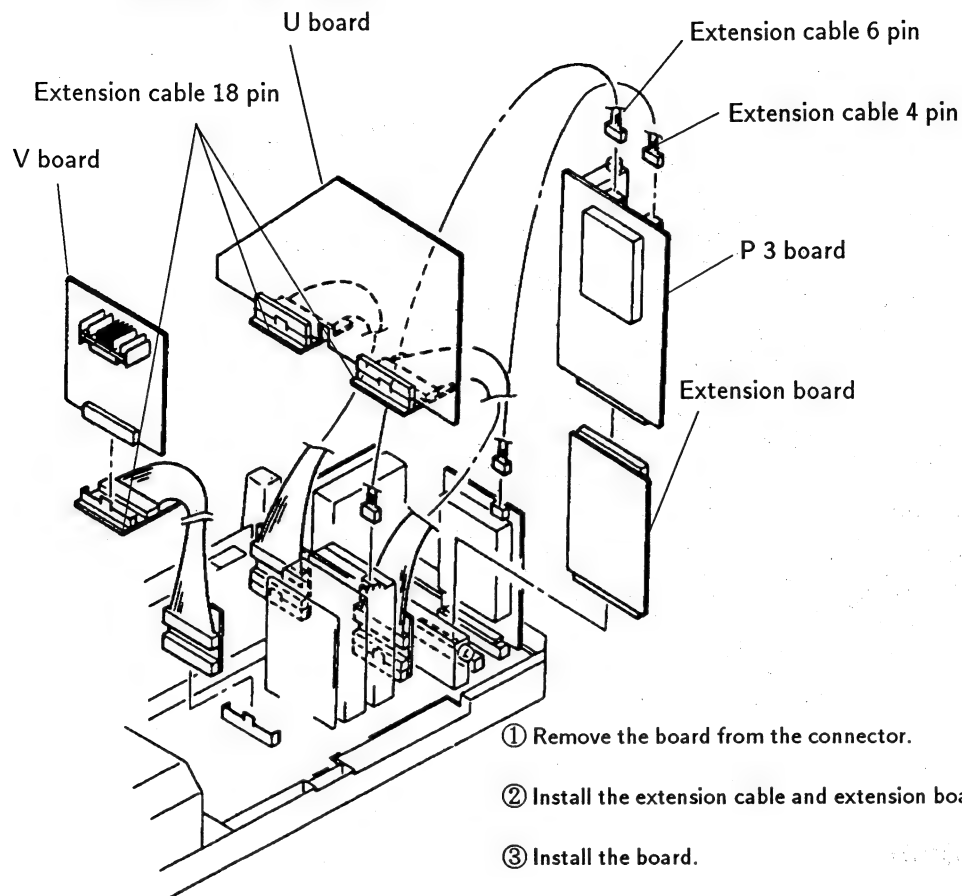
## 2-13. N BRACKET REMOVAL



## 2-14. G BOARD REMOVAL

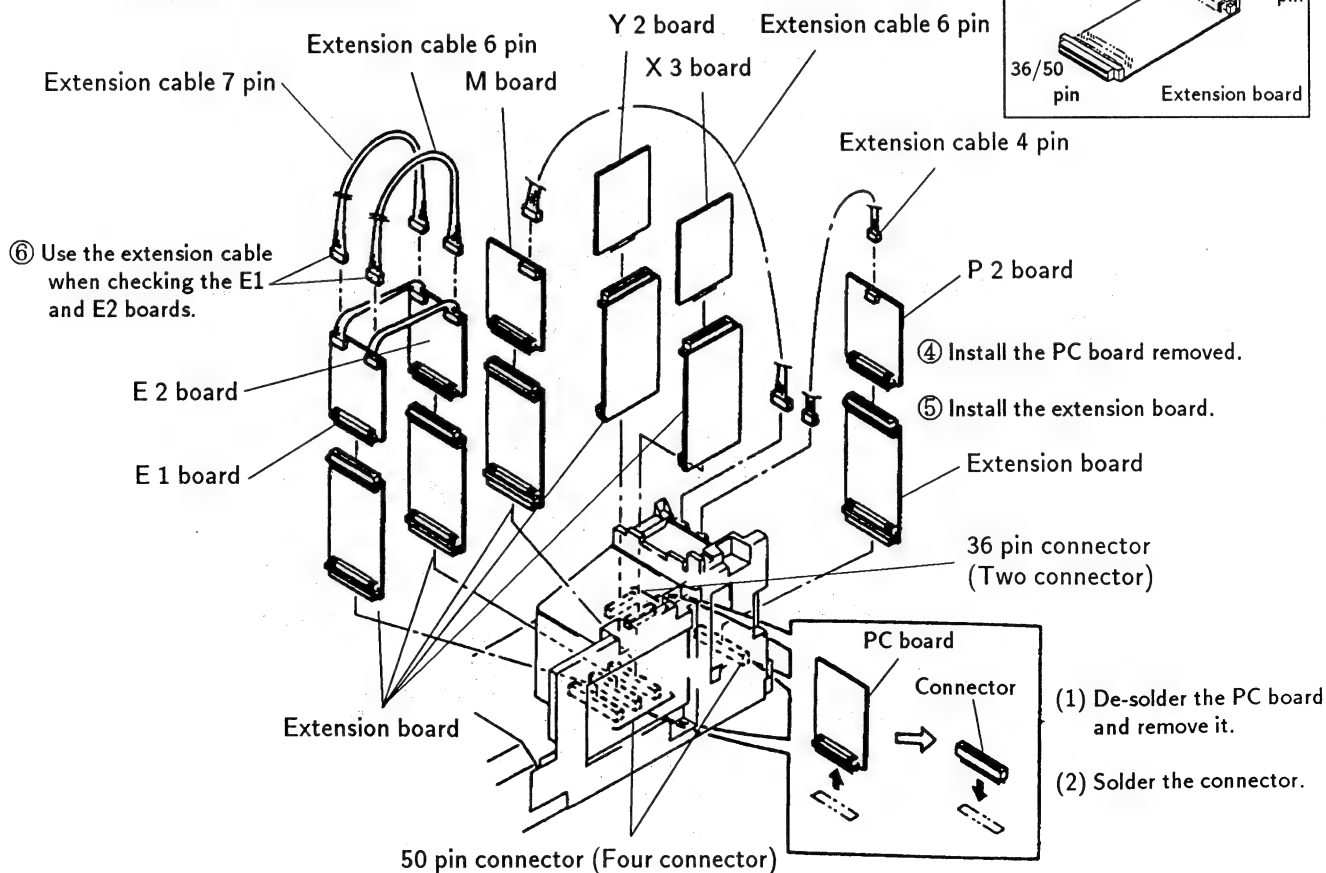


## 2-15-1. CONNECTOR CABLE



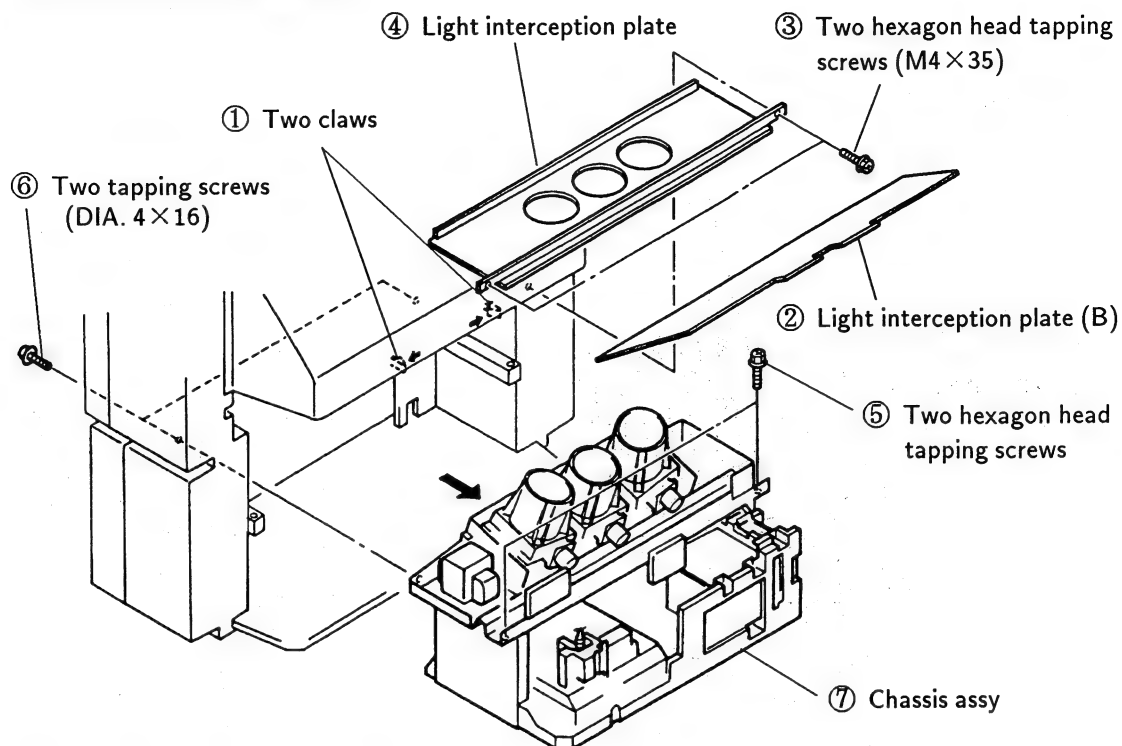
Exterior	
Extension cable	
4 pin	1-941-891-33
6 pin	1-941-891-31
7 pin	1-941-891-32
18 pin	3-702-558-01
10 pin	3-702-557-01
36 pin connector	3-702-561-01
50 pin connector	3-702-560-01
36/50 pin	3-702-559-01
Extension board	

## 2-15-2. CONNECTOR CABLE

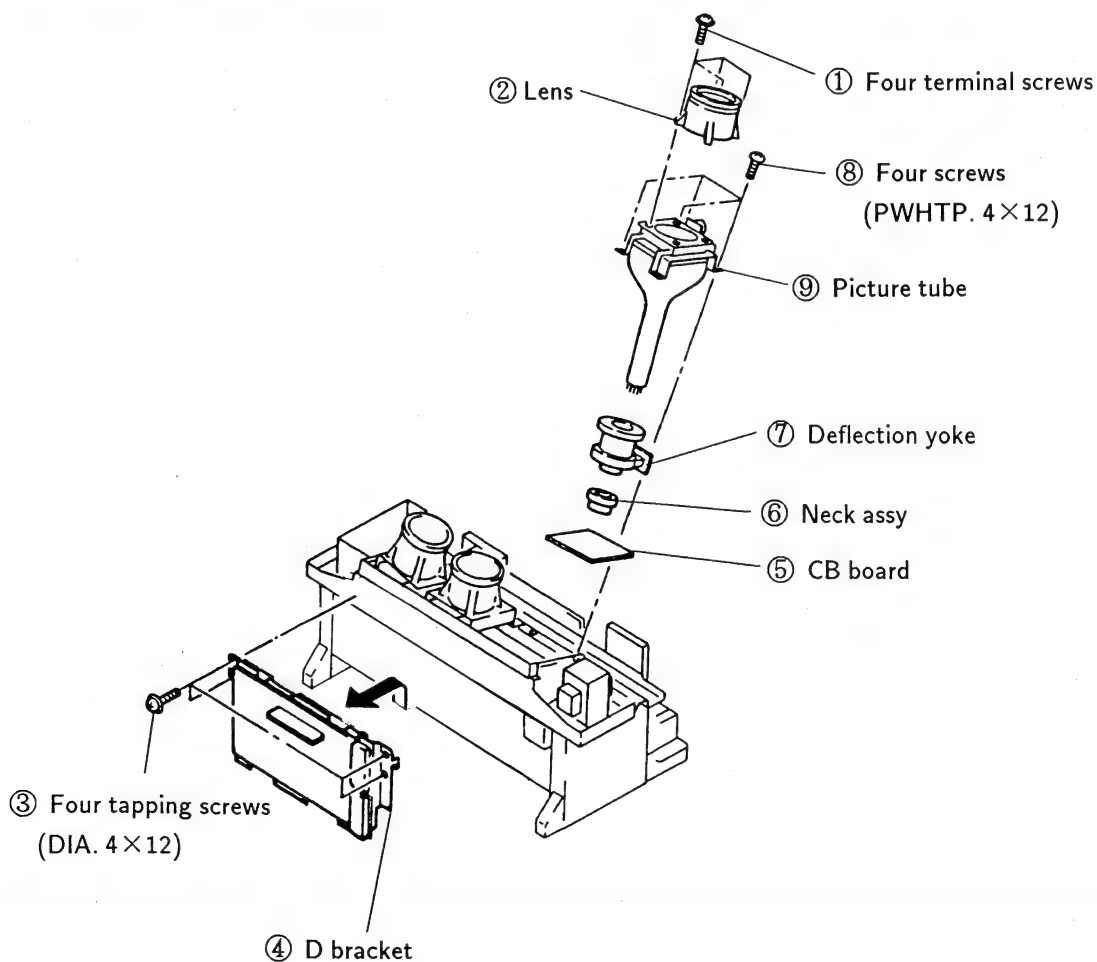




## 2-16. CHASSIS ASSY REMOVAL

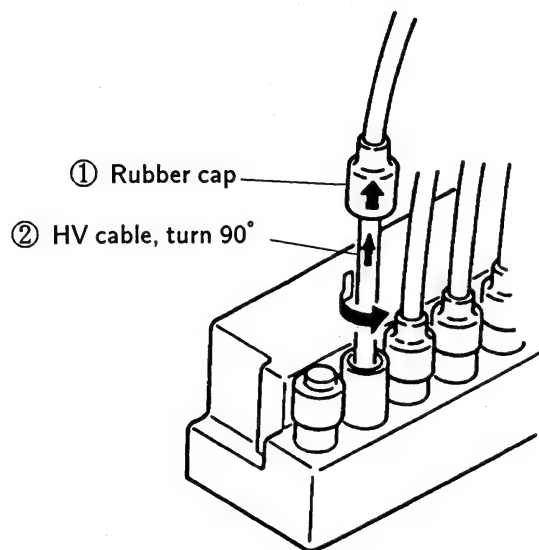


## 2-17. PICTURE TUBE REMOVAL

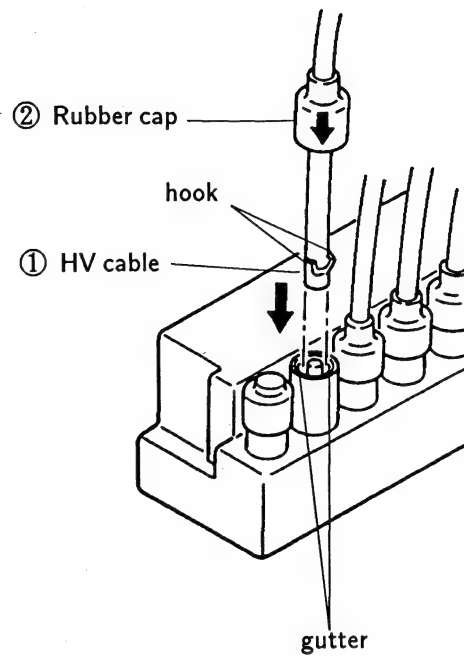


## 2-18. HIGH-VOLTAGE CABLE INSTALLATION AND REMOVAL

(1) Remover



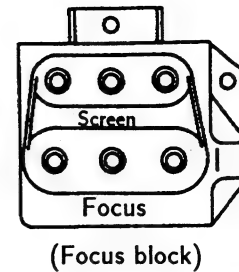
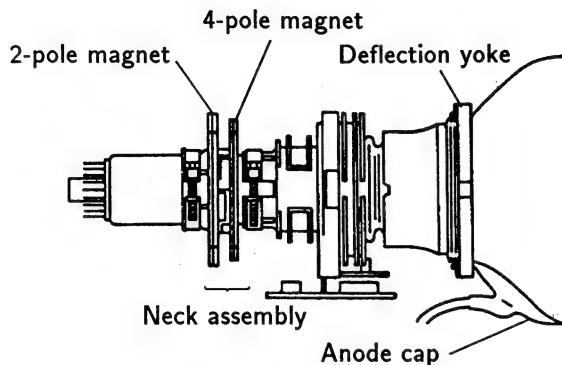
(2) Installation



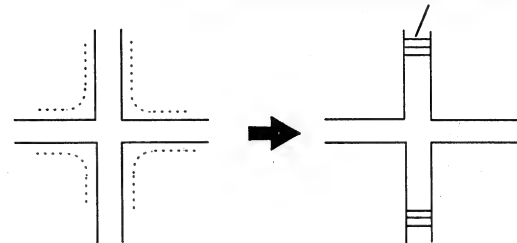
## SECTION 3 SET-UP ADJUSTMENTS

### 3-1. FOCUS LENS ADJUSTMENTS

1. Set the D-board registration variable resistors (VR) to mechanical center.
2. Set the centering magnets (for red, green, and blue) to 0 as shown in the figure.

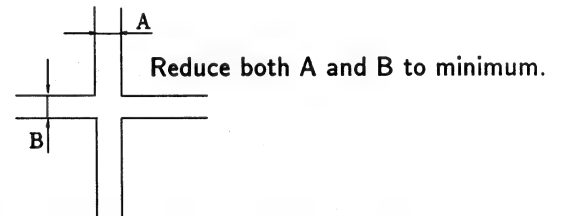


Verify that scanning lines are seen.

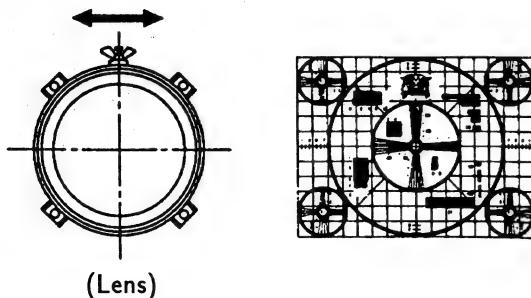


3. Input monoscope signal. Set 50% BRIGHTNESS and minimum PICTURE. Make rough adjustment so that 10IRE of the monoscope signal becomes faintly luminous using the screen VRs.
4. Set PICTURE and BRIGHTNESS maximum. Press the commander menu button. Select CONVERGENCE to display test signal.
5. Enter service mode. Select R OFF of SERVICE MODE to cut off red output. Similarly, select B OFF to cut off blue output.
6. Turn the green lens to eliminate flare of the test signal.

7. Turn the green focus VR in the focus block to adjust green focus to reduce both A and B of the test signal to minimum.



8. Repeat above 6 and 7. Couple of times to improve tracking and obtain an optimum focus. Then tighten the green lens screw.
9. Adjust the red and blue focuses similarly.



### 3-2. DEFLECTION YOKE POSITION ADJUSTMENTS

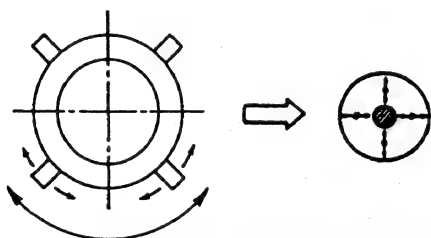
1. Input monoscope signal.
2. Enter service mode. Select R OFF of SERVICE MODE to cut off red output. Similarly, select B OFF to cut off blue output.
3. Loosen the deflection yoke (DY) fitting screws. Tilt the DY to obtain the best horizontal and vertical monoscope patterns.
4. After adjustment, press the DY onto the cathode ray tube (CRT) funnel and tighten the screws.
5. Also adjust DY positions for red and blue outputs in the same way.

### 3-3. 2-POLE MAGNET ADJUSTMENT

1. Input dot signal.
2. Enter service mode. Select R OFF of SERVICE MODE to cut off red output.  
Similarly, select B OFF to cut off blue output.
3. Set PICTURE to maximum. Turn the green focus variable resistor (VR) in the focus block counterclockwise from the just focus to brighten the point in the dot.
4. Adjust the 2-pole magnet to position the bright point at the center of the dot.
5. Adjust the red and blue dots in the same way.

\* Use the center dot:red and green

Use the vertical center and left end dot :blue

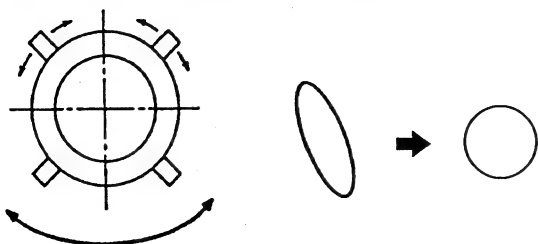


### 3-4. 4-POLE MAGNET ADJUSTMENT

1. Input dot signal.
2. Enter service mode. Select R OFF of SERVICE MODE to cut off red output.  
Similarly, select B OFF to cut off blue output.
3. Set PICTURE to maximum. Turn the green focus variable resistor (VR) in the focus block clockwise (count clockwise:blue) from the just focus until the dot diameter becomes as shown below.
4. Adjust the 2-pole magnet to make the dot perfectly round.
5. Turn the green focus variable resistor to the just focus.
6. Adjust the red and blue dot in the same way.

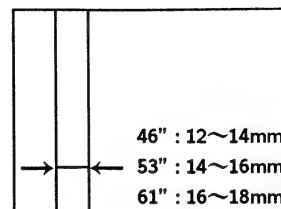
\* Use the center dot : red and green

Use the vertical center and left end dot : blue



### 3-5. DE-FOCUS ADJUSTMENT (BLUE)

1. Input cross hatch signal.
2. Turn the blue focus variable resistor (VR) in the focus block counter clock wise so that the width of the left end vertical line becomes as shown below.

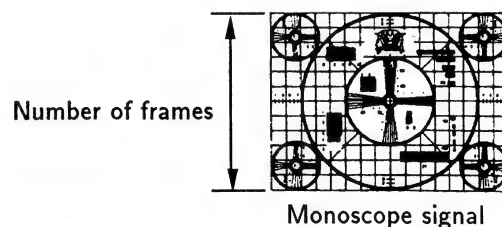


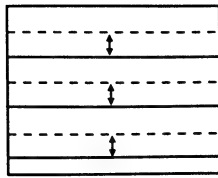
without flare


### 3-6. GREEN PICTURE ADJUSTMENTS

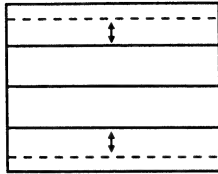
1. Input monoscope signal.
2. Enter service mode. Select R OFF of SERVICE MODE to cut off red output.  
Similarly, select B OFF to cut off blue output.
3. Turn RV913 and RV960, the vertical green linearity variable resistors (V.G LIN VRs) on the D-board, to obtain an optimum vertical linearity. Then turn RV911, the vertical green amplitude variable resistor (V.G SIZE VR) to set vertical amplitude to 11.7 flames.

Note: The vertical position indicator of the monoscope signal must be positioned at the center by adjusting RV905, the vertical green center position variable resistor (V.G CENT VR) in advance.

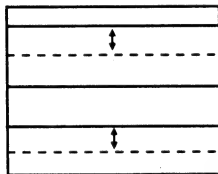




  
RV905 V.G CENT  
(vertical position)

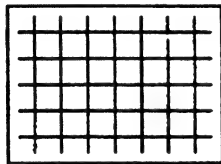


  
RV911 V.G SIZE  
(vertical amplitude)



  
RV913 V.G LIN  
(vertical linearity)

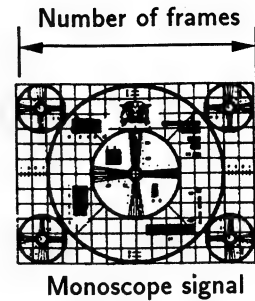
5. Verify that the horizontal lines on the top and bottom of cross-hatched area of the monoscope signal are horizontal and linear.



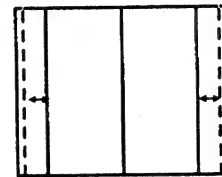
6. Turn RV916, RV964 and RV969, the horizontal green linearity variable resistors (H.G LIN VRs) on the D-board, to obtain an optimum horizontal linearity.

Then turn RV908, the horizontal green amplitude variable resistor (H.G SIZE VR) to set horizontal amplitude to 15.6 frames.

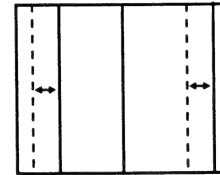
Note: The horizontal position indicator of the monoscope signal must be positioned at the center by adjusting RV902, the horizontal green center position variable resistor (V.G CENT VR) in advance.



Monoscope signal



  
RV908 H.G SIZE  
(horizontal position)



  
RV916 H.G LIN  
(horizontal linearity)

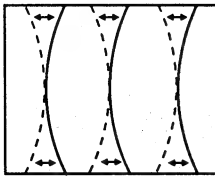
7. Input cross hatch signal.

Turn vertical green (V.G) and horizontal green (H.G) variable resistors (VRs) and make adjustments according to the following steps :

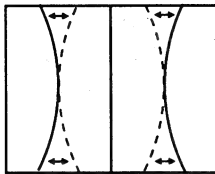
(Adjustment procedure)

1. [BOW] → [SKEW] → [CENT (center position)]
2. [PIN (pin warp)] → [SUB BOW] → [BOW]
3. [KEYS (trapezoid)] → [SUB SKEW] → [SKEW]
4. [M.WAVE (middle sine wave warp)] → [WAVE-A (upper and lower sine wave warp)] → [WAVE-U (upper sine wave warp)]  
※ For vertical (V) only.
5. [V-M.PIN (vertical middle pin warp)] → [V/WING (vertical wing warp)]  
※ For vertical (V) only.
6. [H-M.PIN (horizontal middle pin warp)]  
※ For horizontal (H) only.

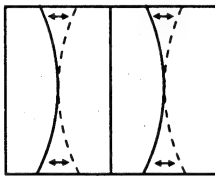
(Dot motion)




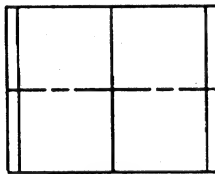
  
RV932 H.G BOW  
(horizontal green bow)



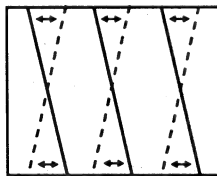
  
RV941 H.G PIN  
(horizontal green pin warp)




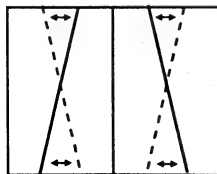
  
RV950 H.G SUB BOW  
(horizontal green sub bow)



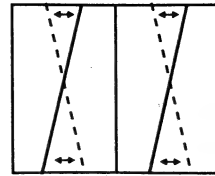
V.G BOW.....RV935  
V.G PIN.....RV938  
V.G SUB BOW.....RV953



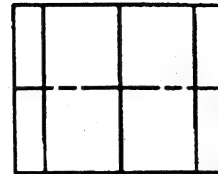
  
RV920 H.G SKEW  
(horizontal green skew)



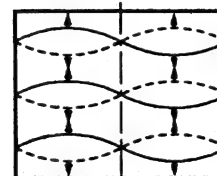
  
RV925 H.G KEYS  
(horizontal green trapezoid)




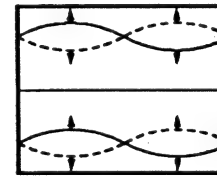
  
RV944 H.G SUB SKEW  
(horizontal green sub skew)




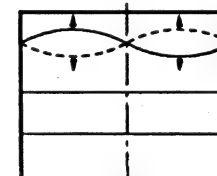
V.G SKEW.....RV923  
V.G KEYS.....RV929  
V.G SUB SKEW.....RV947



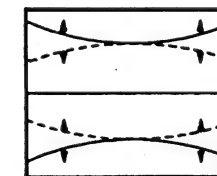
  
RV962 V-M-WAVE  
(vertical middle sine wave warp)




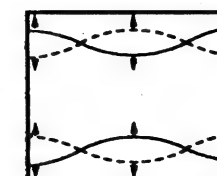
  
RV975 V-WAVE-A  
(vertical upper and lower  
sine wave warp)




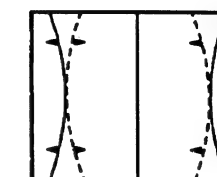
  
RV978 V-WAVE-U  
(vertical upper sine wave warp)



  
RV980 V-M. PIN  
(vertical middle pin warp)  
※ Common in red, green,  
and blue



  
RV957 V/WING  
(wing warp)  
※ Common in red, green,  
and blue



  
RV956 H/M. PIN  
(horizontal middle pin warp)

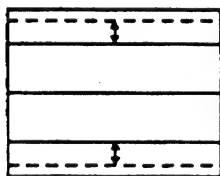
### 3-7. GREEN AND RED REGISTRATION ADJUSTMENTS

1. Input cross hatch signal.
2. Enter service mode. Select B OFF of SERVICE MODE to cut off blue output.
3. Turn the vertical red (V.R) and horizontal red (H.R) variable resistors (VRs) to adjust red picture convergence in relation to green picture according to the following steps :

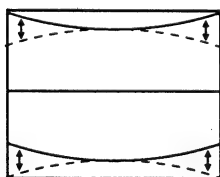
(Adjustment procedure)


1. [LIN (linearity)] → [SIZE (amplitude)] → [CENT (center position)]
2. [BOW] → [SKEW] → [CENT (center position)]
3. [PIN (pin warp)] → [SUB BOW] → [BOW]  
[H/M. PIN (horizontal middle pin warp)]
4. [KEYS (trapezoid)] → [SUB SKEW] → [SKEW]
5. [M.WAVE (middle sine wave warp)] → [WAVE-A (upper and lower sine wave warp)] → [WAVE-U (upper sine wave warp)]

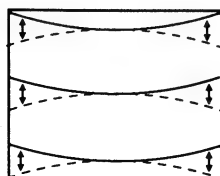
(Dot motion)



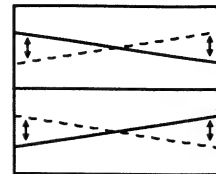
  
RV912 V.B SIZE  
(vertical red amplitude)



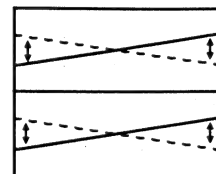
  
RV952 V.R SUB BOW  
(vertical red sub bow)




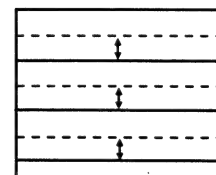
  
RV943 V.R BOW  
(vertical red bow)




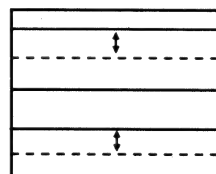
  
RV928 V.R KEYS  
(vertical red trapezoid)



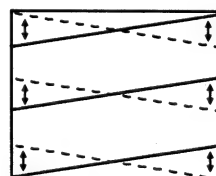
  
RV946 V.R SUB SKEW  
(vertical red sub skew)



  
RV904 V.R CENT  
(vertical red center position)



  
RV917 V.R LIN  
(vertical red linearity)



  
RV922 V.R SKEW  
(vertical red skew)

H.R LIN	RV915
H.R SIZE	RV907
H.R CENT	RV901
H.R BOW	RV931
H.R SKEW	RV919
H.R PIN	RV940
H.R KEYS	RV926
H.R SUB BOW	RV949
H.R SUB SKEW	RV943
V-M-WAVE	RV973
V-WAVE-A	RV976
V-WAVE-U	RV979
V-M.PIN	RV980
V/WING	RV957
H/M.PIN	RV956

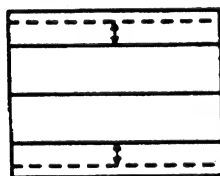
### 3-8. GREEN AND BLUE REGISTRATION ADJUSTMENTS


1. Input cross hatch signal.
2. Enter service mode. Select R OFF of SERVICE MODE to cut off red output.
3. Turn the vertical blue (V.B) and horizontal blue (H.B) variable resistors (VRs) to adjust blue picture convergence in relation to green picture according to the following steps :

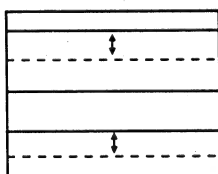
(Adjustment procedure)

1. [LIN (linearity)] → [SIZE (amplitude)] → [CENT (center position)] →
2. [BOW] → [SKEW] → [CENT (center position)]
3. [PIN (pin warp)] → [SUB BOW] → [BOW]  
[H/M. PIN (horizontal middle pin warp)]
4. [KEYS (trapezoid)] → [SUB SKEW] → [SKEW]
5. [M.WAVE (middle sine wave warp)] → [WAVE-A (upper and lower sine wave warp)] → [WAVE-U (upper sine wave warp)] →

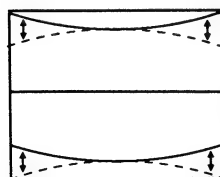
(Dot motion)




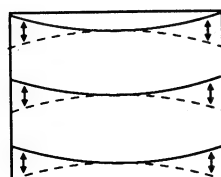
  
RV912 V.B SIZE  
(vertical blue amplitude)



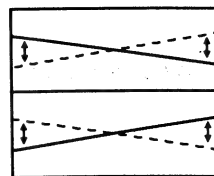
  
RV918 V.B LIN  
(vertical blue linearity)




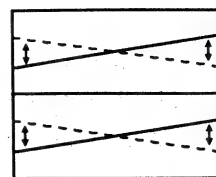
  
RV954 V.B SUB BOW  
(horizontal blue sub bow)




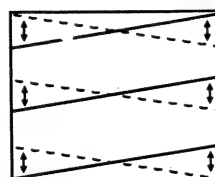
  
RV936 V.B BOW  
(vertical blue bow)




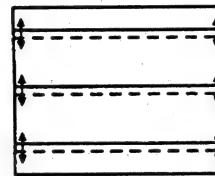
  
RV930 V.B KEYS  
(vertical blue trapezoid)



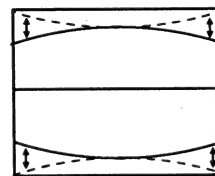
  
RV948 V.B SUB SKEW  
(vertical blue sub skew)



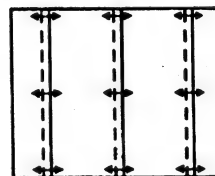
  
RV924 V.B SKEW  
(vertical blue skew)



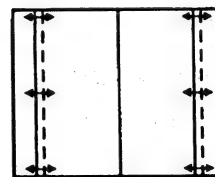
  
RV906 V.B CENT  
(vertical blue center position)



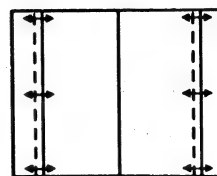
  
RV939 V.B PIN  
(vertical blue pin warp)



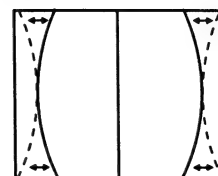
  
RV903 H.B CENT  
(vertical blue center position)



  
RV909 H.B SIZE  
(horizontal blue amplitude)

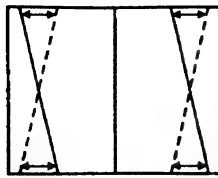


  
RV914 H.B LIN  
(horizontal blue linearity)

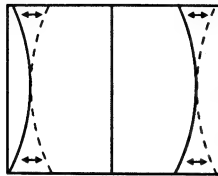


  
RV942 H.B PIN  
(horizontal blue pin warp)

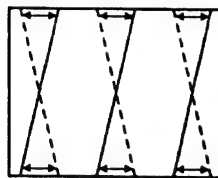




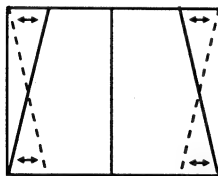
RV954 H.B SUB SKEW  
(horizontal blue sub skew)



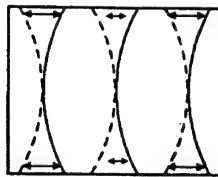
RV951 H.B SUB BOW  
(horizontal blue sub bow)



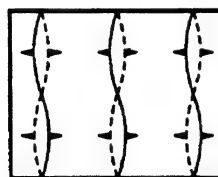
RV921 H.B SKEW  
(horizontal blue skew)



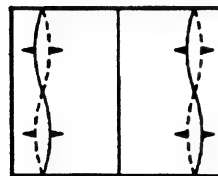
RV927 H.B KEYS  
(horizontal blue trapezoid)



RV933 H.B BOW  
(horizontal blue bow)



RV981  
※ Common in red,  
green, and blue



RV982  
※ Common in red,  
green, and blue

H/M PIN.....RV958  
M.WAVE.....RV961  
WAVE-A.....RV974  
WAVE-U.....RV977

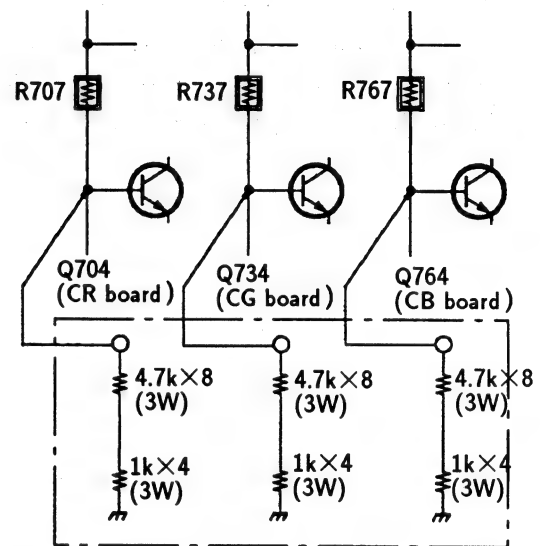
### 3-9. REGISTRATION CHECK

1. Out put red, blue, and green.
2. Out put cross hatch and monoscope signals to check registration. Also check focus.

### 3-10. WHITE BALANCE ADJUSTMENTS

#### 1) Screen adjustment

1. Input white signal.
2. Remove connectors CR-15, CG-16, and CB-17.
3. Fit jigs between the ground and R707, R737, and R767.



※ Resistors in each jig are connected serial.

4. Turn the RGB (red, green, and blue) screen variable resistors in the focus block to make the flyback line faint. Stop before the line completely disappears.
5. Insert connectors CR-15, CG-16, and CB-17.

**2) White balance adjustments (SBRT, GAMP, BAMP, GCUT, BCUT)**

1. Input monoscope signal and enter service mode.
2. Select the picture quality adjustment from the menu and set PICTURE minimum.
3. Use the commander to adjust SBRT so that 10 IRE of the monoscope pattern becomes faintly luminous.
4. Input white signal.
5. Set PICTURE minimum. Adjust item GCUT and BCUT to obtain an optimum white balance.
6. Set PICTURE maximum. Adjust GAMP and BAMP to obtain an optimum white balance.
7. Repeat white balance adjustment alternating PICTURE setting at the minimum and maximum.

# MEMO

[illegible]

## SECTION 4

### SAFETY RELATED ADJUSTMENTS

#### 4-1. SAFETY RELATED ADJUSTMENTS

When replacing the following components, make the HV REGULATOR adjustments (on the N board)

- .....HV block, IC803, IC805, D805, D807, C817, C818, C821, C836, C837, R824, R825, R827, R828, R834, R835, R836, R864, R865, R866, R902

When replacing the following components, make the HV HOLD DOWN adjustments (on the N board)

- .....HV block, IC803, IC804, Q804, D806, D808, C809, C819, C820, C822, C823, C850, R807, R826, R829, R832, R833, R837, R838, R839, R840, R841, R892, R893, R900, R901

When replacing the following components, make the BEAM CURRENT PROTECTOR adjustments (on the N board)

- .....① IC802, Q805, Q807, D811, D812, C810, C824, C825, C826, C827, C831, R810, R843, R844, R847, R848, R849, R850, R851, R852, R853, R854, R881
- ② IC804, Q804, Q808, D808, D809, C809, C828, C829, C830, C831, R807, R839, R840, R841, R847, R848, R849, R850, R851, R852, R855, R856, R857, R881

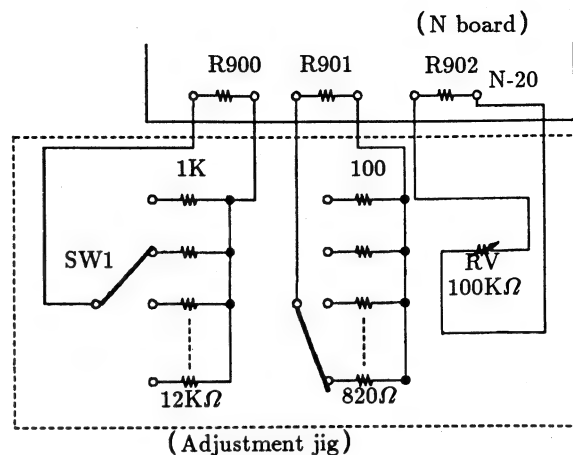
When replacing the following components, make the OVP CIRCUIT adjustments (on the G board)

- .....Q618, Q621, D628, C634, R639, R649, R652, R655, R656

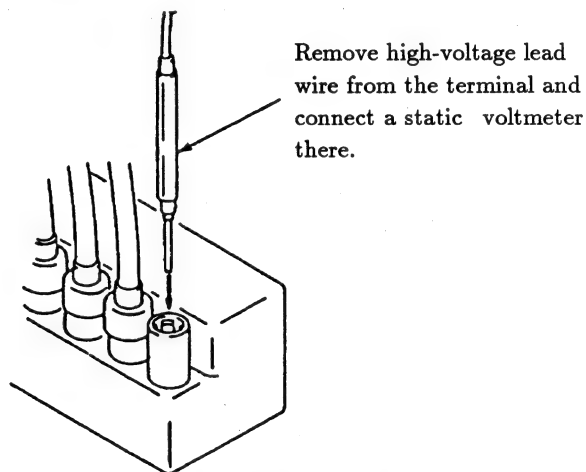
— Checking with static voltmeter —

#### **HV HOLD DOWN ADJUSTMENTS (R900, R901)**

1. Verify that the power switch is off.
2. Connect the HV hold down adjustment resistance jig to the N20 connector on the N board.



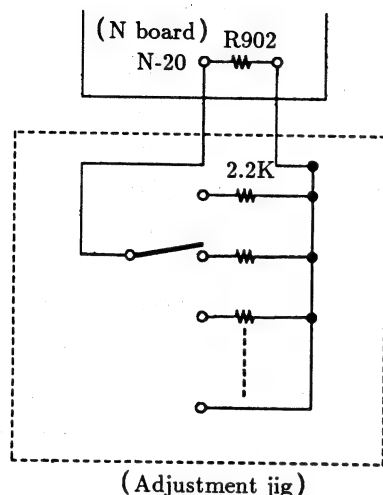
3. Connect an external variable resistor (RV) to R902 of the N board.
4. Remove the cap off from the unused terminal of the high voltage block. Connect a static voltmeter to the terminal.



5. Receive 120 VAC power voltage and monoscope pattern signal. Maximize PICTURE and BRIGHTNESS.
6. Use the external variable resistor of the hold down adjustment jig to make the static voltmeter to read  $33.50 \pm 0.50\text{kVDC}$ .
7. Raise resistances with the jig until the HV hold down circuit is activated. Read the figures then, and mount resistance of the measured figures to R900 and R901.  
R900 : Must be  $1\text{k}\Omega$  to  $12\text{k}\Omega$   
R901 : Must be  $100\Omega$  to  $820\Omega$
8. Turn on power again. Vary external variable resistance and confirm that the HV hold down circuit is activated at the reated value,  $33.50 \pm 0.50\text{kV}$ .

### HV REGULATOR ADJUSTMENTS (R902)

1. Connect the HV adjustment resistance jig to R902 of the N board.

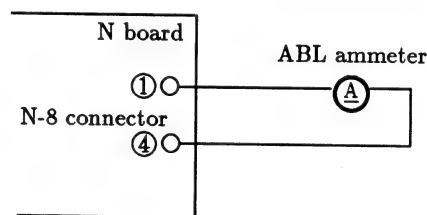


### CHECKING THE OVP (overvoltage protection) CIRCUIT (R652)

1. Receive 120 VAC power voltage and monoscope pattern signal. Maximize PICTURE and BRIGHTNESS.
2. Remove R638 from the G board and connect a variable resistor (4.7 to 10k $\Omega$ ) instead.
3. Turn the variable resistor of 10k $\Omega$  and confirm that the OVP circuit is activated and luster disappears when +B voltage reads the rated value, 125.0 $\pm$ 5.0 VDC.

### BEAM CURRENT PROTECTOR CHECK (R852)

1. Receive 120 VAC power voltage and monoscope pattern signal. Maximize BRIGHTNESS.
2. Connect pin① and pin② of the N-21 connector. (on the N board)
3. Remove the jumper connector from the N-8 connector on the N board. Then connect an ABL ammeter between pin ① and pin ④ of the N-8 connector.



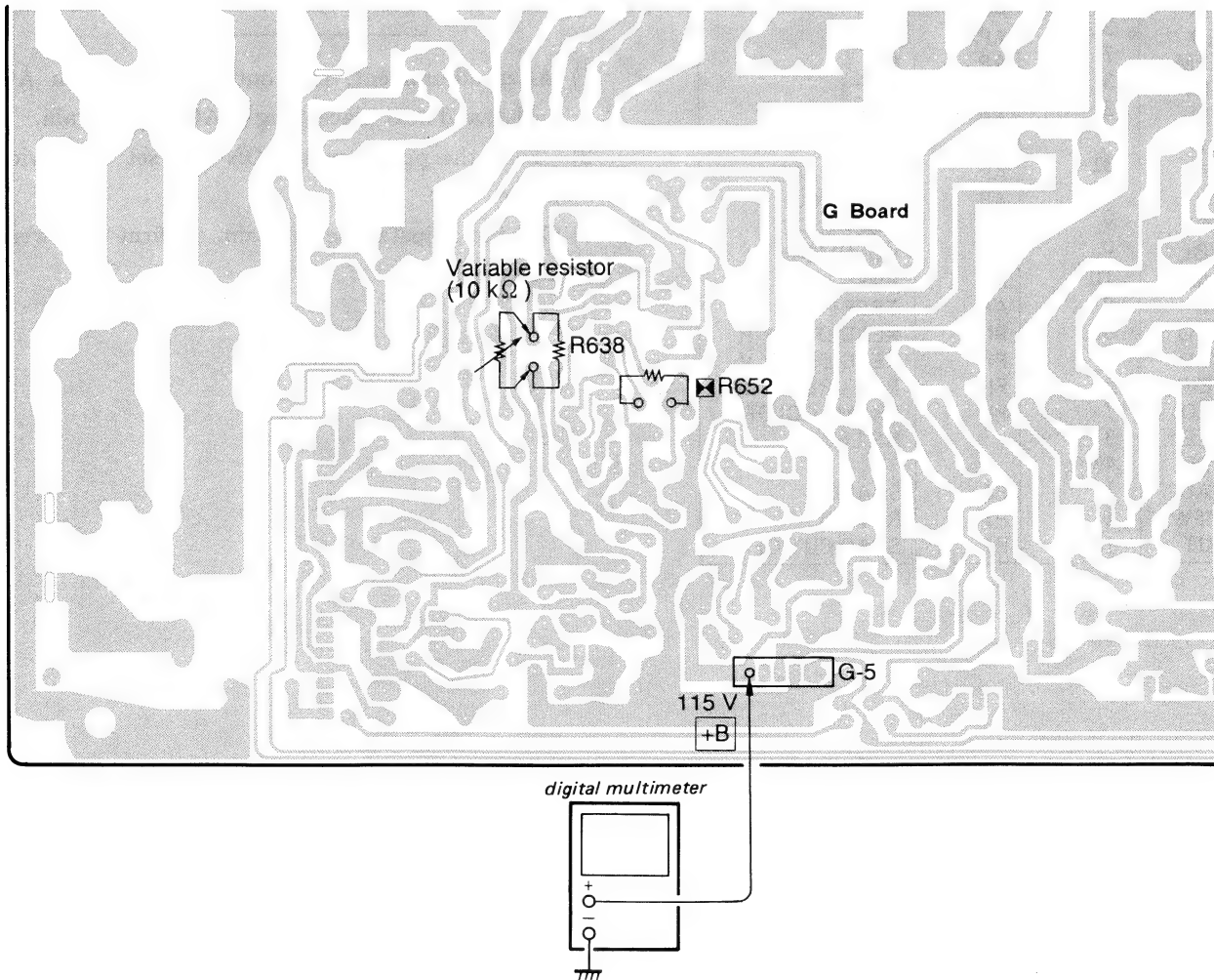
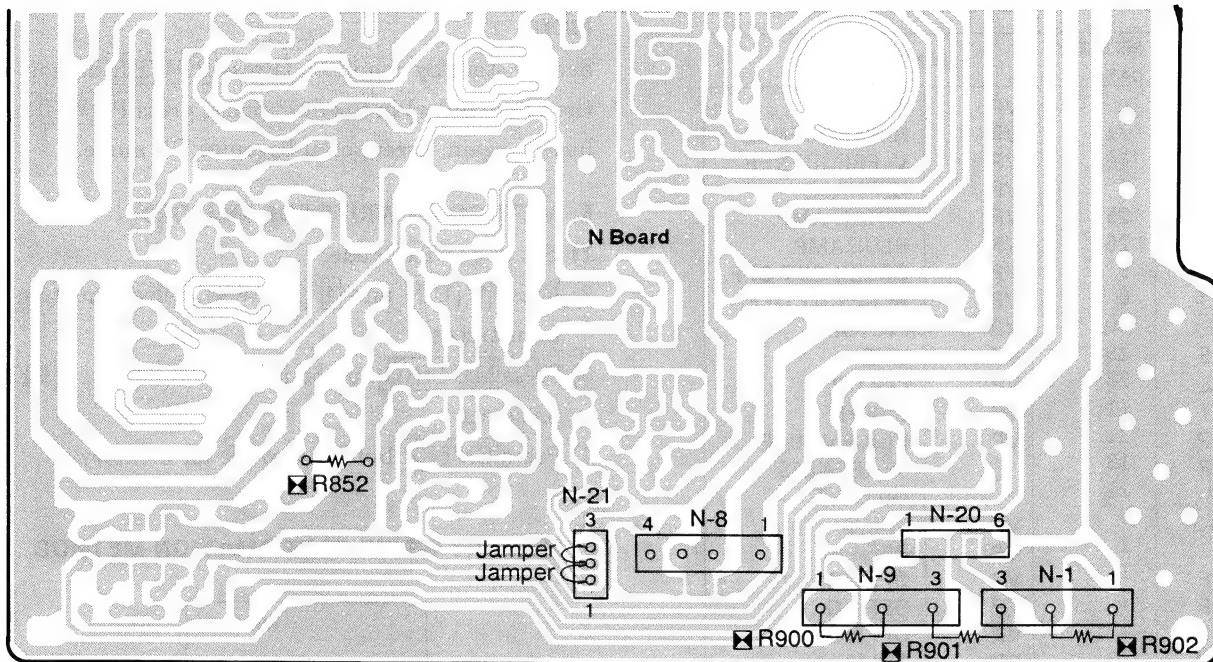
4. Raise PICTURE current gradually. Confirm that the beam current protector circuit is activated and luster disappears under the rated value, 3400  $\mu$ A.
5. Connect pin③ and pin② of the N-21 connector. Verify that the protector circuit is activated and luster disappears similarly.

### +B VOLTAGE CONFIRMATION

1. Receive 120 $\pm$ 1 VAC power voltage and monoscope pattern signal. Set BRIGHTNESS to standard and maximize PICTURE.
2. Connect a digital multimeter between the 115V line and the ground on the G board, and confirm that the rated value, 115.0 $\pm$ 3.0V is read.

### CHECKING AFTER REPLACING IC601

1. When replacing IC601, check the +B voltage.



— C

**HV H**

1. R<sub>1</sub>
2. R<sub>2</sub>
3. R<sub>3</sub>
4. C<sub>1</sub>
5. T<sub>1</sub>
6. A<sub>1</sub>
7. R<sub>4</sub>
8. M<sub>1</sub>
9. V<sub>1</sub>

— Checking without static voltmeter —

### HV HOLD DOWN ADJUSTMENT (R900, R901)

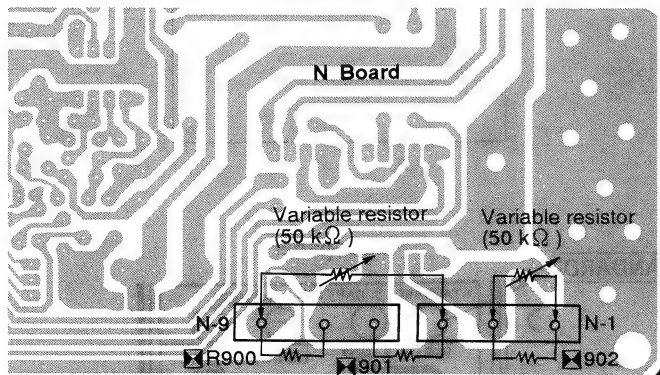
1. Receive all-white signal. Maximize PICTURE and BRIGHTNESS.
2. Remove R902 from the N board. Connect a variable resistor of  $50k\Omega$  on each end, and minimize the resistance.
3. Remove R900 and R901 from the N board. Connect a variable resistor of  $50k\Omega$  on each end, and minimize the resistance.
4. Connect a digital voltmeter between the D801 cathode and chassis ground of the N board.
5. Turn on the power switch. Adjust the variable resistors connected to the R902 of the N board to make the digital multimeter to read  $145.0VDC$ .
6. Adjust the variable resistors connected to R900 and R901 on the N board so as to activate the HV hold down circuit and turn off the display.
7. Read the variable resistors connected to R900 and R901 and mount fixed resistors of measured resistance to the terminals.

Note : Select fixed resistance from the following ranges.

R900 :  $1k\Omega$  to  $12k\Omega$

R901 :  $100\Omega$  to  $820\Omega$

8. Maximize resistance of the variable resistor connected to R902 of the N board and turn on power.
9. Vary variable resistance at R902. Confirm that the HV hold down circuit is activated and the display is turned off when voltage reads  $134 \pm 1.0V$ .

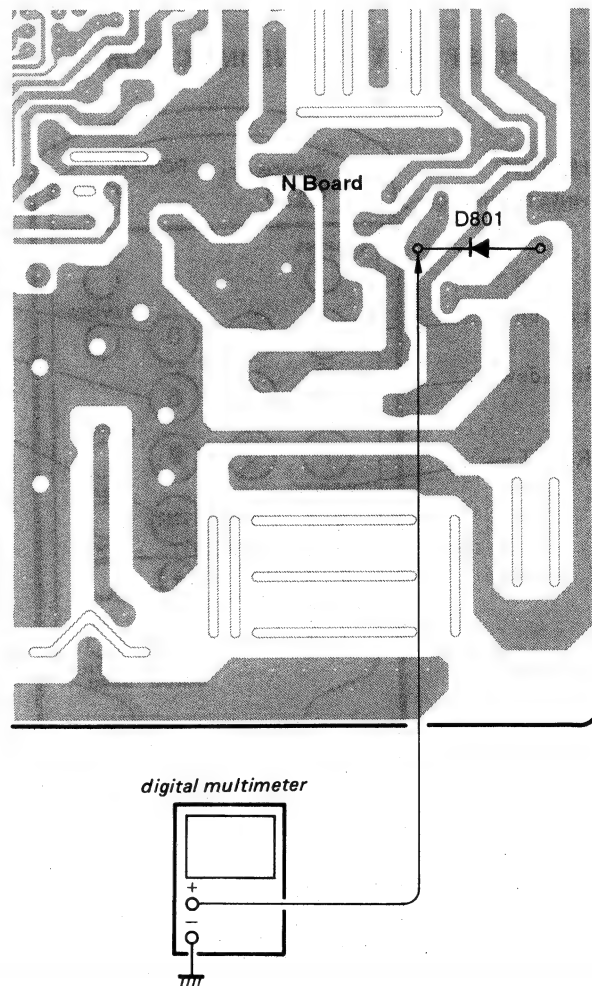


### HV REGULATOR ADJUSTMENT (R902)

1. Receive all-white signal. Maximize PICTURE and BRIGHTNESS.
2. Connect a variable resistor of  $50k\Omega$  on each end of R902 of the N board. Maximize resistance.
3. Connect a digital voltmeter between the D801 cathode and the chassis of the N board.
4. Turn on power. Adjust the variable resistor so that the digital multimeter reads  $135.0V \pm 1.0V$ .
5. Read the variable resistance then.
6. Mount a fixed resistor of the measured resistance to R902.

Note : R902 : Must be  $2.2k\Omega$  to  $27k\Omega$

7. Turn on power again. Confirm that the digital multimeter reads  $135.0V \pm 1.0V$ .



## SECTION 5 CIRCUIT ADJUSTMENTS

### 5-1. ELECTRICAL ADJUSTMENT BY REMOTE COMMANDER

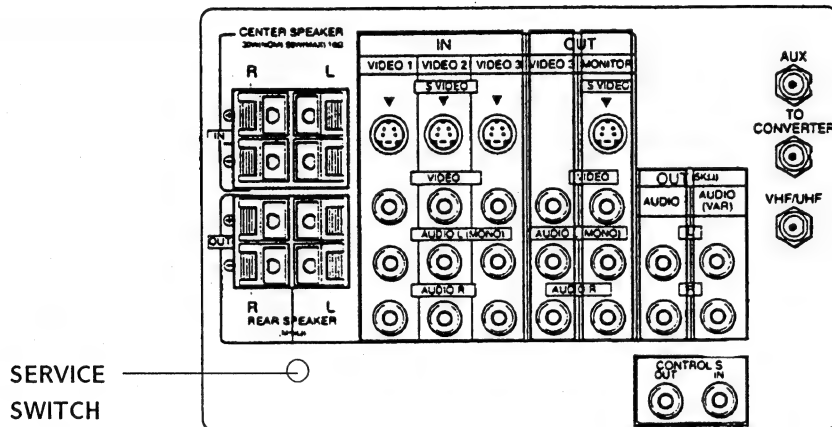
Use of Remote Commander (RM-Y114A) can be performed circuit adjustments about this model.

#### 1. METHOD OF SETTING THE SERVICE MODE

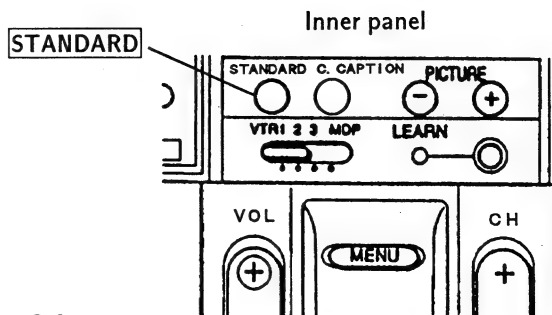
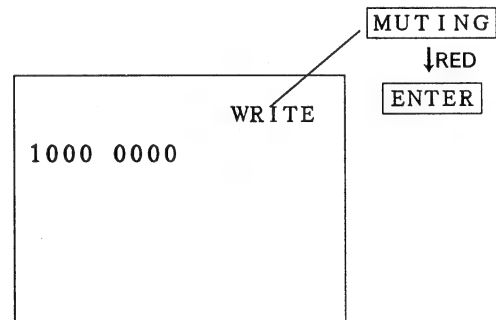
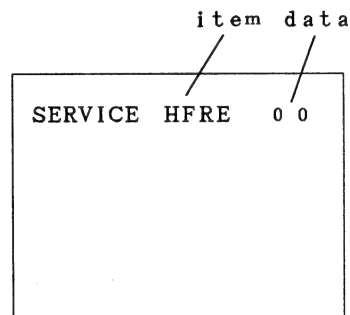
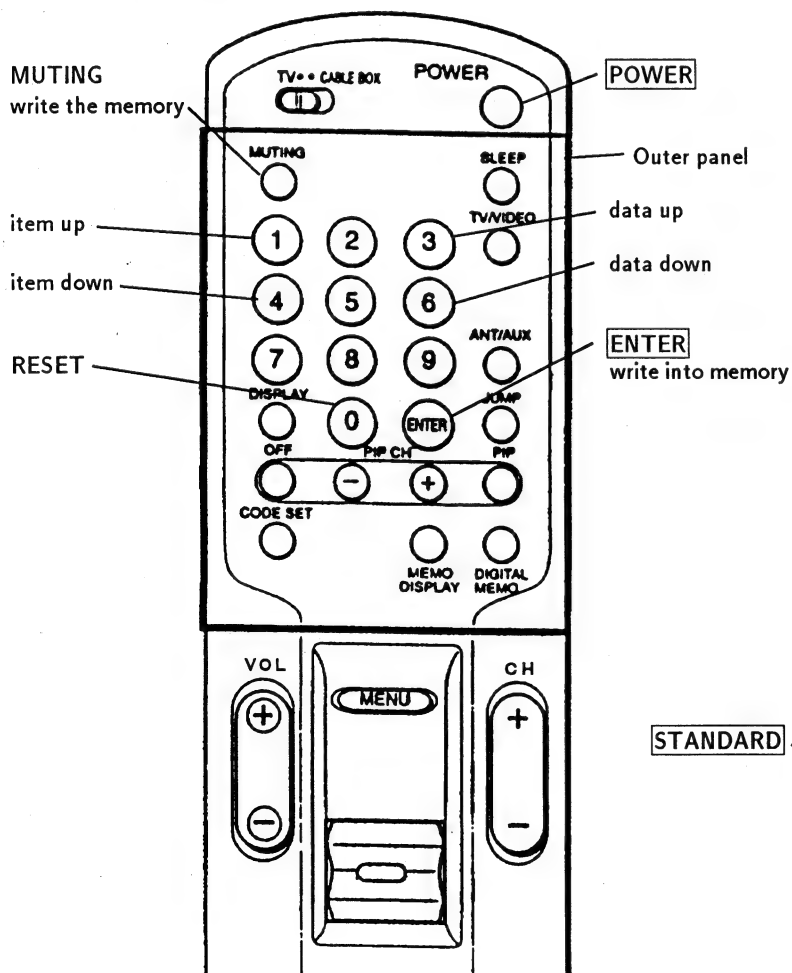
- 1) Press **POWER** button on the Remote Commander while pressing switch on the rear of the set.

NOTE : Test Equipment Required.

1. Pattern Generator
2. Frequency counter
3. Digital multimeter
4. Audio OSC



#### 2. ADJUST BUTTONS AND INDICATOR





### 3. AN ITEM OF ADJUSTMENT

ITEM	REFERENCE DATA	NAME REGIST	
AFC	0	VP	AFC 1.0
HFRE	74	VP	H. FREQUENCE
VFRE	16	VP	V. FREQUENCE
HPOS	5	VP	H. PHASE
GAMP	25	VP	GREEN AMP.
BAMP	26	VP	BLUE AMP.
GCUT	9	VP	GREEN CUT OFF.
BCUT	6	VP	BLUE CUT OFF
SPIX	40	VP	PICTURE
SHUE	29	VP	HUE
SCOL	28	VP	COLOR
SBRT	11	VP	BRIGHT
RGBP	21	VP	RGB PICTURE
SHAR	13		SHARPNESS
DISP	21		OUTPUT
VSMO	0	VP	VSMO
REF	1	VP	REF 1.0
ROFF	1	VP	OFF NR
GOFF	1	VP	OFF NG
BOFF	1	VP	OFF NB
ABLM	1	VP	ABLM
DRGB	0	VP	D RGB
TEST	0	AP	T
MPX	7	AP	ATT
FILO	31	AP	I1
DEEM	7	AP	I2
STEV	31	AP	OSC 1
SAPV	31	AP	OSC 2
PILO	7	AP	PILOT
SEP	31	AP	WIDE BAND
VD	7	AP	SPECTRAL
LVOL	0	AP	VOLUME-L
RVOL	0	AP	VOLUME-R
BASS	10	AP	BASS
TRE	8	AP	TREBLE
PHPO	32	PI	READ DELAY H
PVPO	8	PI	READ DELAY V
PLEV	6	PI	PICTURE LEVEL
PFCO	7	PI	FRAME COLOR
NRLE	31		NR LEVEL
DSPP	43		
SHAD	1	PJ	SHADON
VMSW	1	PJ	RS HAD
SCUT	16	PJ	SHAD CUT OFF

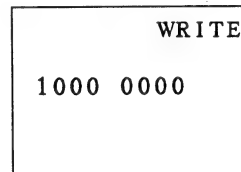
### 4. METHOD OF CANCELLATION FROM SERVICE MODE

Set the standby condition (Press **POWER** button on the commander) in the next place, press **POWER** button again, hereupon it becomes TV mode.

### 5. METHOD OF WRITE FOR MEMORY

- 1) Set to Service Mode.
- 2) Press **1** (UP) and **4** (DOWN), select an item of adjustments.
- 3) Press **MUTING** button indicate WRITE (RED) on screen.
- 4) Press **ENTER** button to write for memory.

### 6. MEMORY WRITE CONFIRMATION METHOD



- 1) After adjustment, pull out the plug from AC outlet, and next place, plug in AC outlet again.
- 2) Turn the power switch ON and set to Service Mode.
- 3) Call the adjusted items again, confirm they were adjusted.

## 5-2. A BOARD ADJUSTMENTS

### RF AGC ADJUSTMENT (IF BLOCK VR)

- 1) Input a color-bar signal.
- 2) Adjust AGC VR of TU 101 so that snow noise and cross-modulation disappear from the picture.
- 3) Confirm them at every channel.

### H.FREQUENCY ADJUSTMENT (HFRE)

- 1) Set to Service Mode.
- 2) Input a color-bar signal.
- 3) Connect a frequency counter to pin③ of A-10 connector.
- 4) Call the item of AFC, set to 3 level (free run).
- 5) Select HFRE with **[1]** and **[4]**.
- 6) Adjust **[3]** and **[6]** to the  $15735 \pm 60$  Hz level.
- 7) Call the item of AFC again, adjust the level "01".
- 8) Write into the memory by pressing **[MUTING]** → then **[ENTER]**.

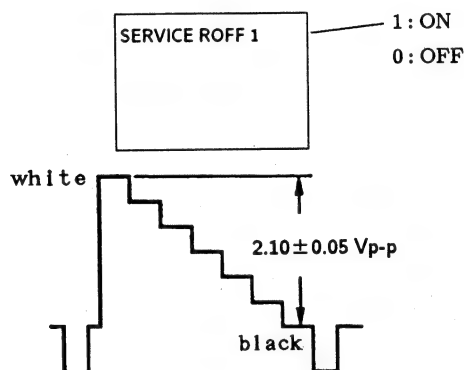
### V.FREQUENCY ADJUSTMENT (VFRE)

- 1) Set the Service Mode.
- 2) Input an off-air signal (VIDEO IN → no signal).
- 3) Connect the frequency counter across connector ⑬pin of E 1-1 connector and ground.
- 4) Select VFRE with **[1]** and **[4]**.
- 5) Adjust **[3]** and **[6]** to the  $56 \pm 0.5$  Hz.
- 6) Write the memory by pressing **[MUTING]** → then **[ENTER]**.

### SUB CONTRAST ADJUSTMENT (SPIX)

- 1) Set to Service Mode.
- 2) Input a color-bar signal. (75 IRE)
- 3) Set the conditions as follows.

PICTURE	.....	MAX
COLOR	.....	MIN
BRIGHTNESS	.....	MIN
TRINITONE	.....	LOW
R OFF	.....	ON
G OFF	.....	OFF
B OFF	.....	OFF

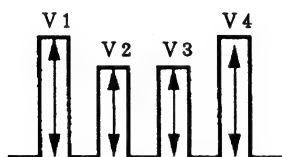


- 4) Connect an oscilloscope to ⑳pin of E1-1 connector on A board and ground.
- 5) Adjust **[3]** and **[6]** to the  $2.10 \pm 0.05$  Vp-p level by select-ing SPIX with **[1]** and **[4]**.
- 6) Write the memory by pressing **[MUTING]** → then **[ENTER]**.
- 7) Return the following back to normal after adjustment.

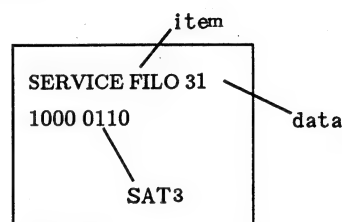
G OFF	.....	ON
B OFF	.....	ON
COLOR	.....	CENTER
BRIGHTNESS	.....	CENTER
TRINITONE	.....	HIGH
PICTURE	.....	80%

### SUB HUE, SUB COLOR ADJUSTMENT (SHUE, SCOL)

- 1) Input a color-bar signal.
- 2) Press **STANDARD** to normal.
- 3) Set to Service Mode.
- 4) Connect an oscilloscope to pin ② of E1-1 connector on A board and ground.
- 5) Adjust ③ and ④ to the  $V1=V4$  and  $V2=V3$  by select to SHUE and SCOL with ① and ④. Lower the data 4 steps from this point.



- 4) Make the data "00" by selecting FILO with ① and ④. And then, send up the data gradually by pressing ⑥. Set the data to D1 before SAT3 changing to 1 from 0.
- 5) Send up the data gradually. Set data D2 when SAT3 changes 0 from 1.
- 6) Adjust the data of FILO to  $\frac{D1 + D2}{2}$ .
- 7) Write into the memory by pressing **MUTING** → then **ENTER**.

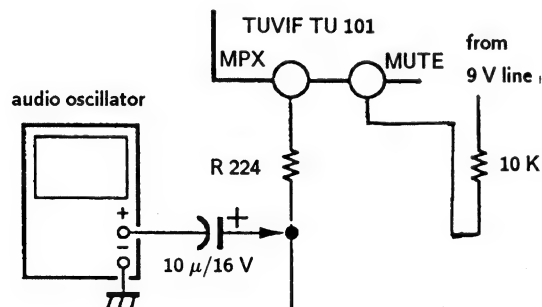


- 6) Write into the memory by pressing **MUTING** → then **ENTER**.

### FILTER ADJUSTMENT (MPX, FILO)

- 1) Set to Service Mode.
- 2) Select to **TEST** with ① and ④, set the data to "1". Then select MPX and change data to "8".
- 3) Connect an audio oscillator to R224 using a capacitor ( $10\mu\text{F}/16\text{V}$ ), set frequency to  $62.936\text{ kHz} \pm 0.1\text{ kHz}$ .

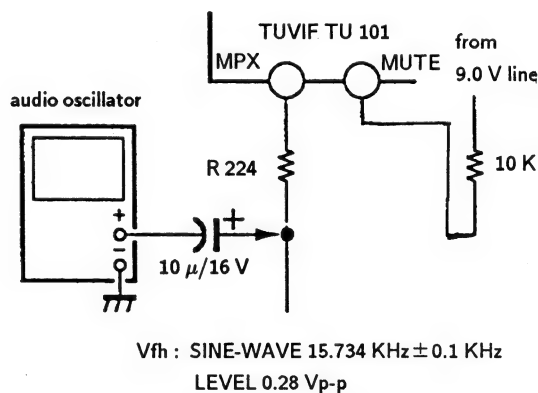
And then, through the  $10\text{k}\Omega$  resistor, feed 9.0V into the mute of TUVIF TU 101.



V4 fh : SINE-WAVE  $62.936\text{ KHz} \pm 0.1\text{ KHz}$   
LEVEL 3.0 Vp-p

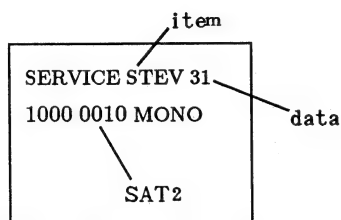
### ST VCO ADJUSTMENT (MPX, STEV)

- 1) Set to Service Mode.
- 2) Select **TEST** with ① and ④, set the data to "1". And then press **MTS** to MONO.
- 3) Select MPX, set the data "8".
- 4) Connect an audio oscillator to R224 using electrolytic capacitor ( $10\mu\text{F}/16\text{V}$ ) and apply the frequency  $V_{st}$ . Then, apply DC voltage to mute of TUVIF TU 101 using  $10\text{k}\Omega$  connect to 9.0 V line.



Vfh : SINE-WAVE  $15.734\text{ KHz} \pm 0.1\text{ KHz}$   
LEVEL 0.28 Vp-p

- 5) Select STEV with **[1]** and **[4]**, set the data to "00" with **[6]**. And then, send up the data gradually. Set the data to D1 before SAT2 changes from 0 to 1.
- 6) Send up data gradually, set the data to D2 when SAT2 changes 1 from 0.
- 7) Adjust the data of STEV to  $(D1 + D2) / 2$ .
- 8) Write into the memory by pressing **[MUTING]** → then **[ENTER]**.



#### MPX IN LEVEL ADJUSTMENT (MPX)

- 1) Set to Service Mode.
- 2) Select TEST with **[1]** and **[4]**, set the data to "0" with **[6]**. And then press **[MTS]** to MONO.
- 3) Select MPX with **[1]** and **[4]**, set the data to "8" with **[3]** and **[6]**.
- 4) Write into the memory by pressing **[MUTING]** → then **[ENTER]**.

#### PILOT CANCEL ADJUSTMENT (PILO)

- 1) Set to the Service Mode.
- 2) Select PILO with **[1]** and **[4]**, set the data to "8" with **[3]** and **[6]**.
- 3) Write into the memory by pressing **[MUTING]** → then **[ENTER]**.

#### SAP VCO f<sub>0</sub> ADJUSTMENT (SAPV)

- 1) Set to Service Mode.
- 2) Input a stereo broadcast signal with SAP.
- 3) Select TEST with **[1]** and **[4]**, set the data to "0". And then, press **[MTS]** to MAIN.
- 4) Connect a digital multimeter to TP-1(DBX). This voltage reading will equal V 1.
- 5) Press MTS to SAP and this voltage will equal V 2.
- 6) Select SAPV with **[1]** and **[4]**, adjust **[3]** and **[6]** so that  $V2 = V1 \pm 0.03 \text{ VDC}$ .
- 7) Write the memory by **[MUTING]** → **[ENTER]**.

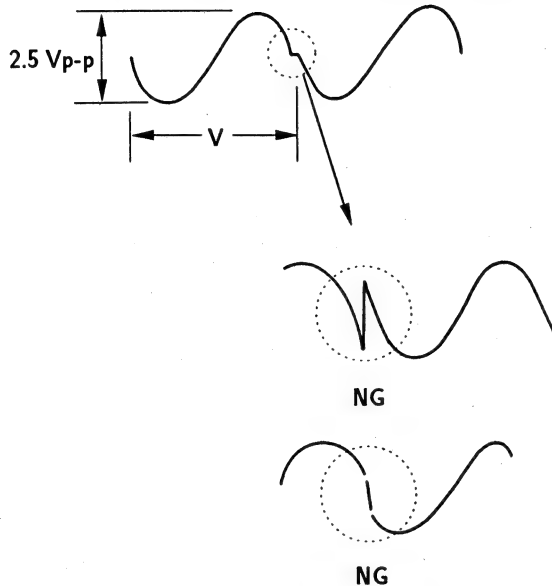
#### SEPARATION ADJUSTMENT (SEP)

- 1) Set to Service Mode.
- 2) Press **[MTS]** to MAIN and receive a monoral broadcast signal.  
In the next step, receive a stereo broadcast signal.
- 3) Select SEP and VD with **[1]** and **[4]**, adjust **[3]** and **[6]** so that a clear stereo sound is effected.

### 5-3. DS BOARD ADJUSTMENTS

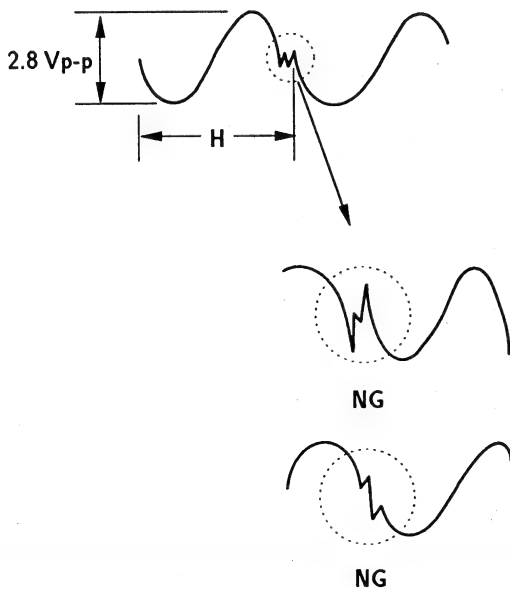
#### V. 3 WAVE ADJUSTMENT (RV983)

- 1) Input a color-bar signal.
- 2) Connect an oscilloscope IC1712 Pin⑦ of DS board ground.
- 3) Adjust RV983 as shown the following figure.

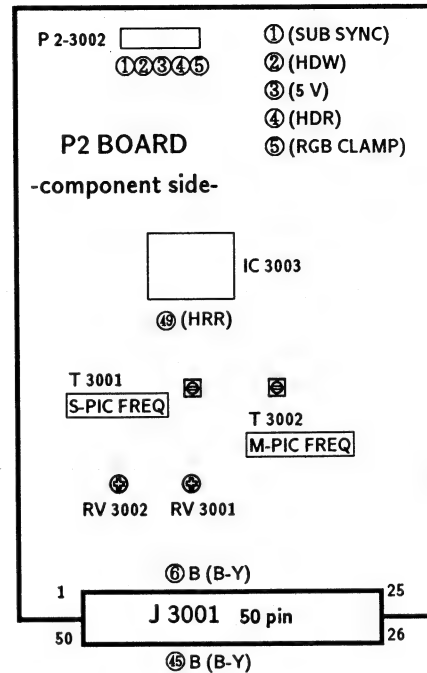


#### H. 3 WAVE ADJUSTMENT (RV984)

- 1) Input a color-bar signal.
- 2) Connect an oscilloscope IC1712 Pin① of DS board ground.
- 3) Adjust RV984 as shown the following figure.



### 5-4. P2 BOARD ADJUSTMENTS



#### MAIN-PICTURE FREQUENCY (T 3002)

- 1) Set PIP mode.
- 2) Connect a frequency counter to Pin 11 (HDW) of J 3001.
- 3) Connect a frequency counter to Pin ④⑨ or ⑤⑩ (HRR) of IC 3003 or Pin 5 (RGB CLAMP) of P 2-3002.
- 4) Short the circuit between Pin 4 (HDR) of P 2-3002 and Pin 3 (5 V) of P 2-3002.
- 5) Turn T 3002 CLK (P) for the following frequency at Pin ④⑨ or ⑤⑩ (HRR) of IC 3003 or at Pin 5 (RGB CLAMP) of P 2-3002.

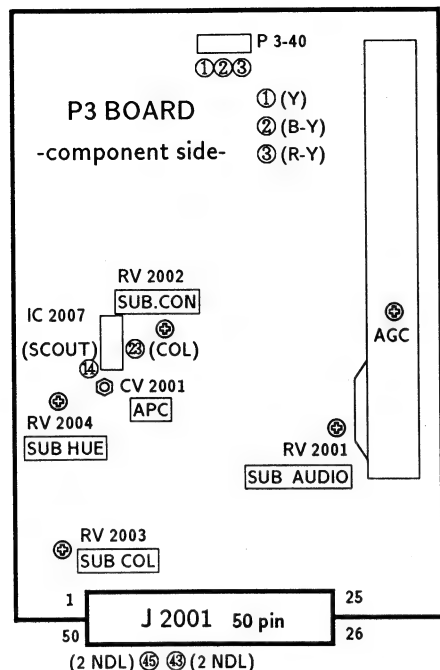
15.734 kHz  $\pm$  10 Hz

#### SUB-PICTURE FREQUENCY (T 3001)

- 1) Set PIP mode.
- 2) Connect a frequency counter to Pin 11 (HDW) of J 3001.
- 3) Connect a frequency counter to Pin ④⑨ or ⑤⑩ (HRR) of IC 3003 or Pin 5 (RGB CLAMP) of P 2-3002.
- 4) Short the circuit between Pin 1 (SUB SYNC) of P 2-3002 and Pin 3 (5 V) of P 2-3002.
- 5) Turn T 3001 CLK (C) for the following frequency at Pin 2 (HDW) of P 2-3002.

15.734 kHz  $\pm$  10 Hz

## 5-5. P3 BOARD ADJUSTMENTS



### RF AGC ADJUSTMENT(IF BLOCK VR)

- 1) Input a color-bar signal.
- 2) Set to PICTURE IN PICTURE mode.
- 3) Adjust AGC VR of TU 2001 so that snow noise and cross-modulation disappear from the picture.
- 4) Confirm them at every channel.

### SUB PICTURE SOUND VOLUME LEVEL (SUB AUDIO) ADJUSTMENT(RV2001)

- 1) Receive an audio signal of 400 Hz. (100% mod.)
- 2) Adjust RV 2001 for the following level at Pin 43 (2 NDR) or Pin 45 (2 NDL) of J 2001.

500 mVrms  $\pm$  2 dB

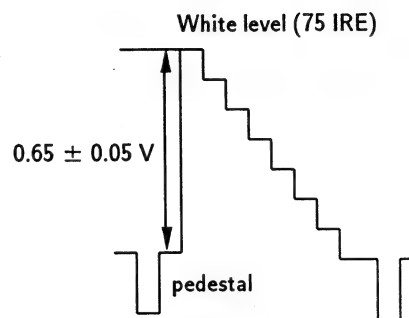
### SUB CONT ADJUSTMENT (RV2002)

- 1) Obtain the color bar signal on the sub-screen.

- 2) Observe at Pin 1 (Y OUT) of P3-42 on an oscilloscope.

Adjust RV2002 for the following level between the white level and pedestal one.

$0.65 \pm 0.05$  Vp-p



### SUB COLOR ADJUSTMENT(RV 2003)

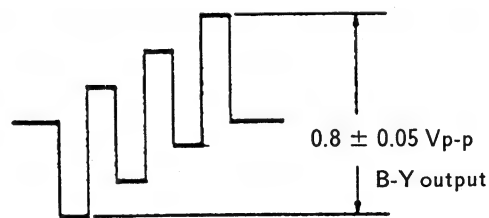
- 1) Obtain the color bar signal on the sub-screen in the mode of PIP size 1/4.
- 2) Reset color.
- 3) Adjust RV 2003 for the following level, observing an oscilloscope connected to Pin 2 (B-Y) of P3-40 (Fig. 1)

$0.8 \pm 0.05$  Vp-p (B-Y)

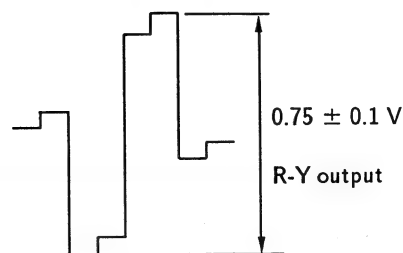
- 4) Adjust RV 2003 for the following level, observing an oscilloscope connected to Pin 3 (R-Y) of P3-40 (Fig. 2)

$0.75 \pm 0.1$  Vp-p (R-Y)

- 5) Adjust tracking between sub color and sub hue.



(Fig. 1)

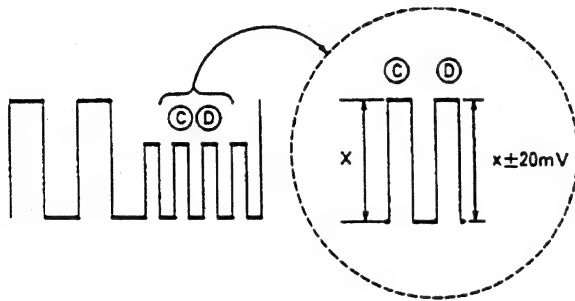


(Fig. 2)

#### SUB HUE ADJUSTMENT(RV 2004)

- 1) Obtain the color bar signal on the sub-screen in the mode of PIP size 1/4.
- 2) Reset hue.
- 3) Observe the signal at Pin 6 or Pin 45 of J 3001 on P 2 board on an oscilloscope and make adjustment to obtain the following level.

$$D : X \pm 20 \text{ mV}$$



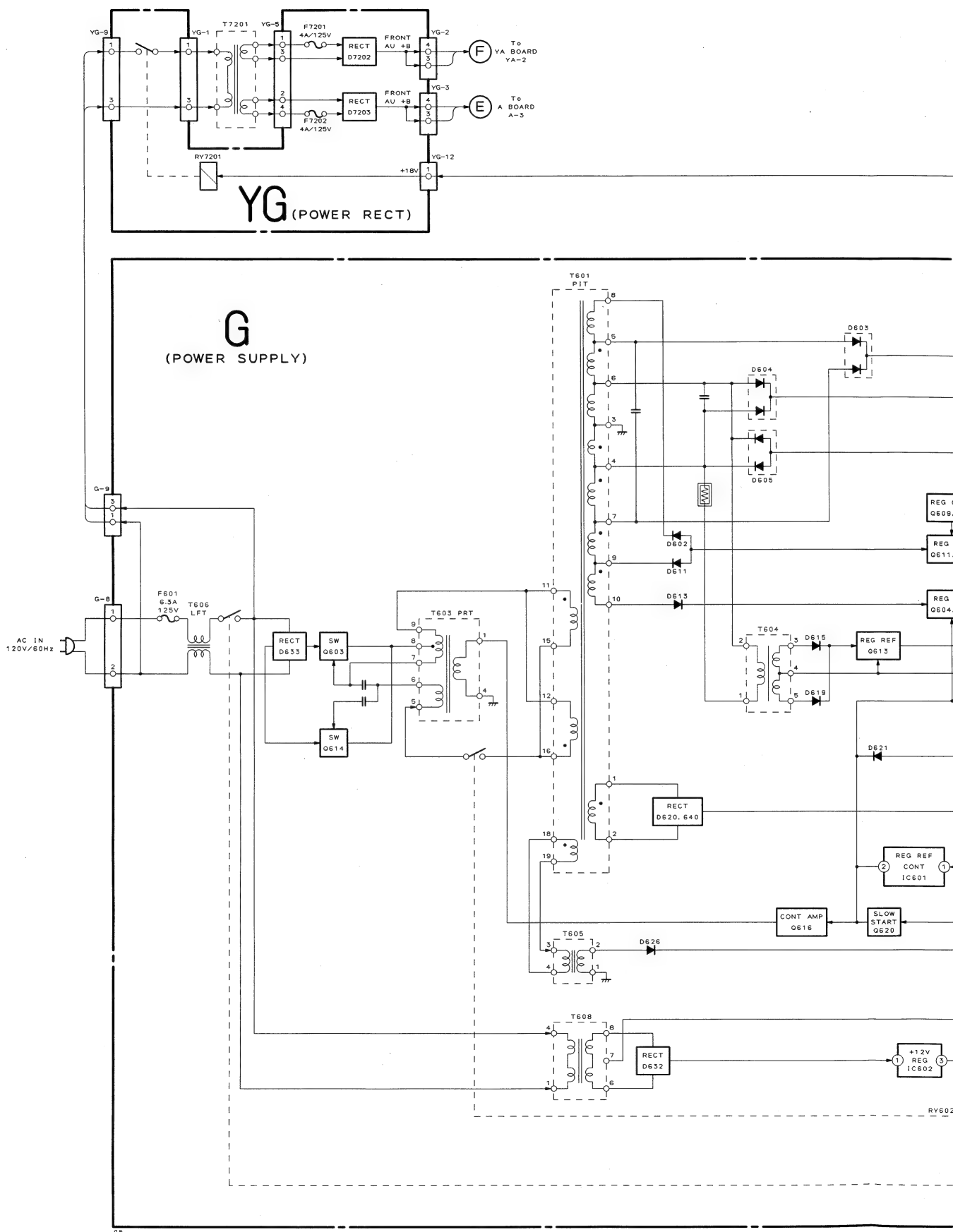
#### APC ADJUSTMENT(CV 2001)

Connect Pin ② (COL) of IC 2007 to ground and connect a frequency source to Pin ⑭ (SCOUT) to obtain the following level.

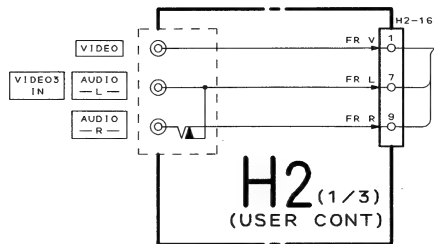
$$3579545 \pm 40 \text{ Hz}$$

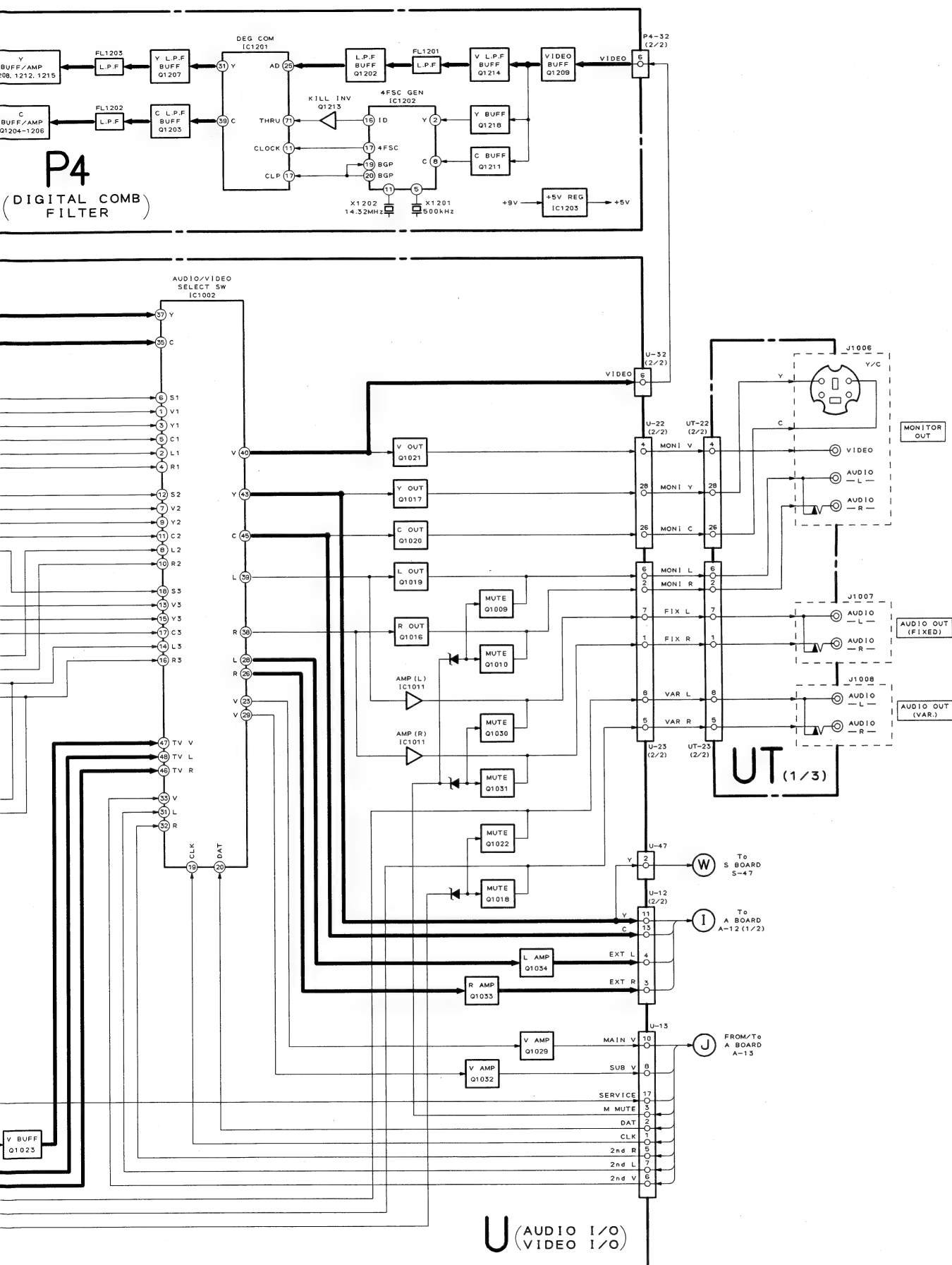
## SECTION 6 DIAGRAMS

### 6-1. BLOCK DIAGRAM (1)







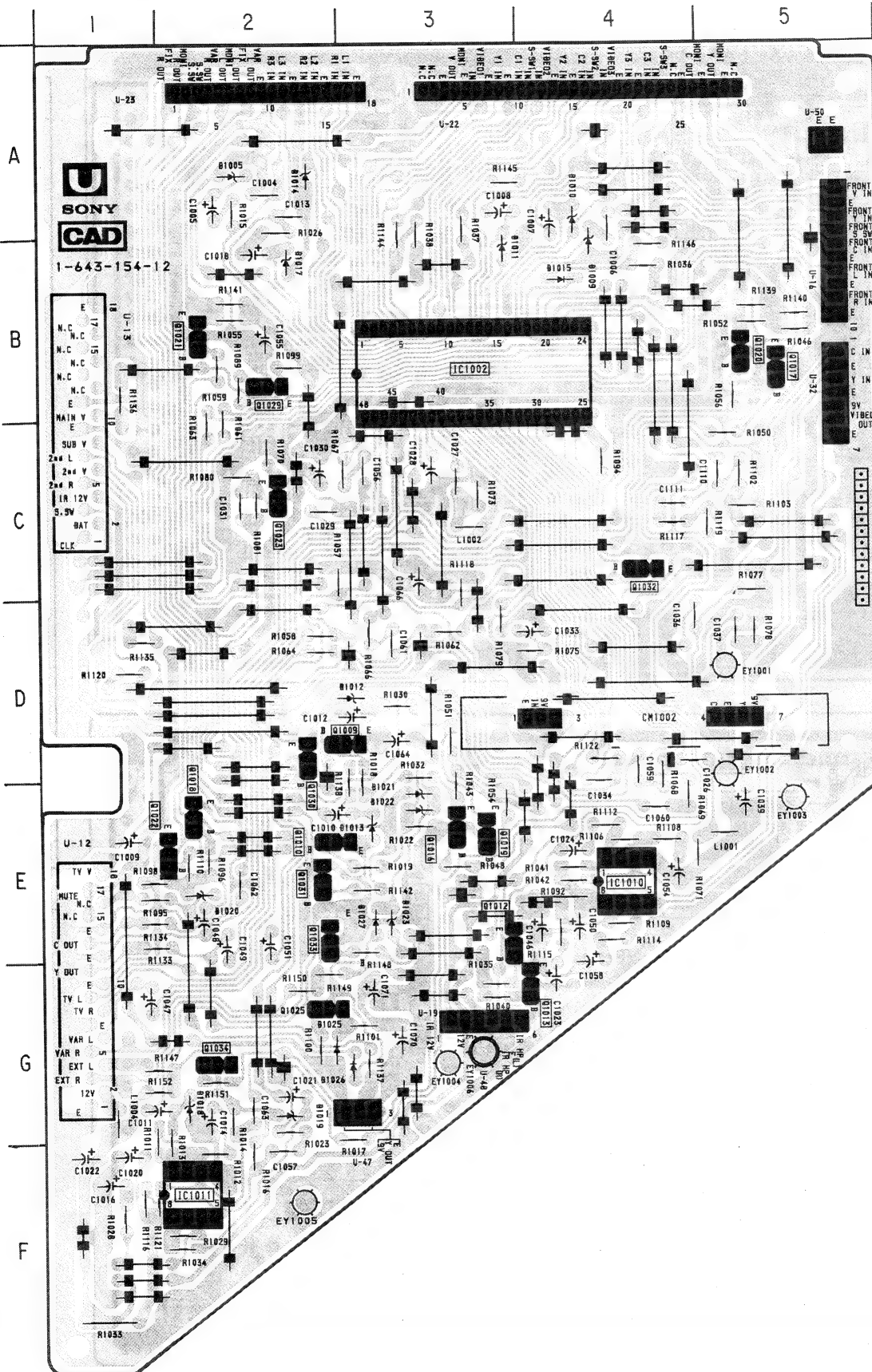


U

[ AUDIO IN/OUT,  
VIDEO IN/OUT ]

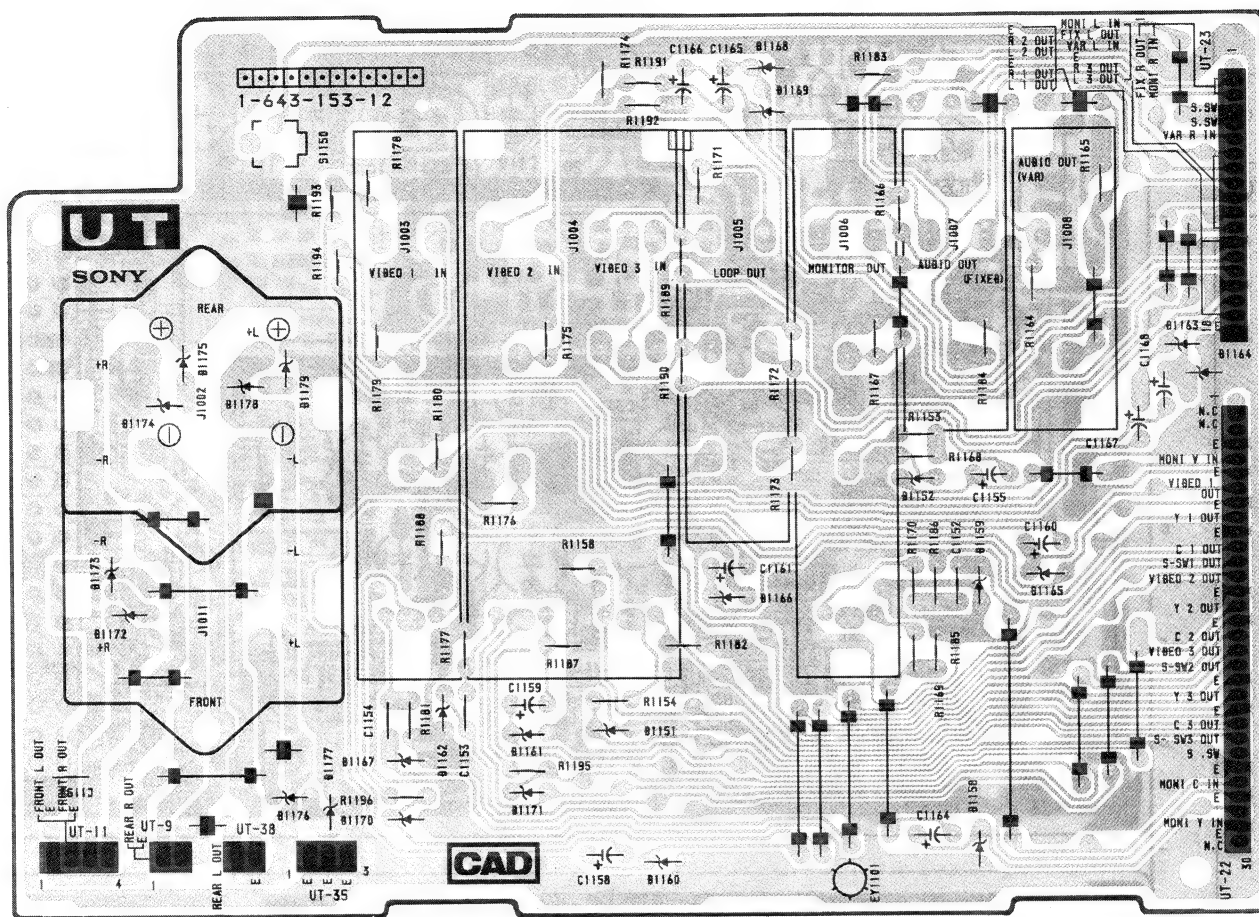
- U Board -

U Board



IC	
IC1002	B-3
IC1011	F-2
TRANSISTOR	
Q1009	D-2
Q1010	E-2
Q1016	E-3
Q1017	B-5
Q1018	E-2
Q1019	E-3
Q1020	B-5
Q1021	B-2
Q1022	E-1
Q1023	C-2
Q1029	B-2
Q1030	D-2
Q1031	E-2
Q1032	C-4
Q1033	E-2
Q1034	G-2
DIODE	
D1005	A-2
D1009	B-4
D1010	A-4
D1011	B-3
D1012	D-3
D1013	E-3
D1017	B-2
D1018	G-2
D1019	G-2
D1020	E-2
D1021	E-3
D1022	E-3

— UT Board —





E1

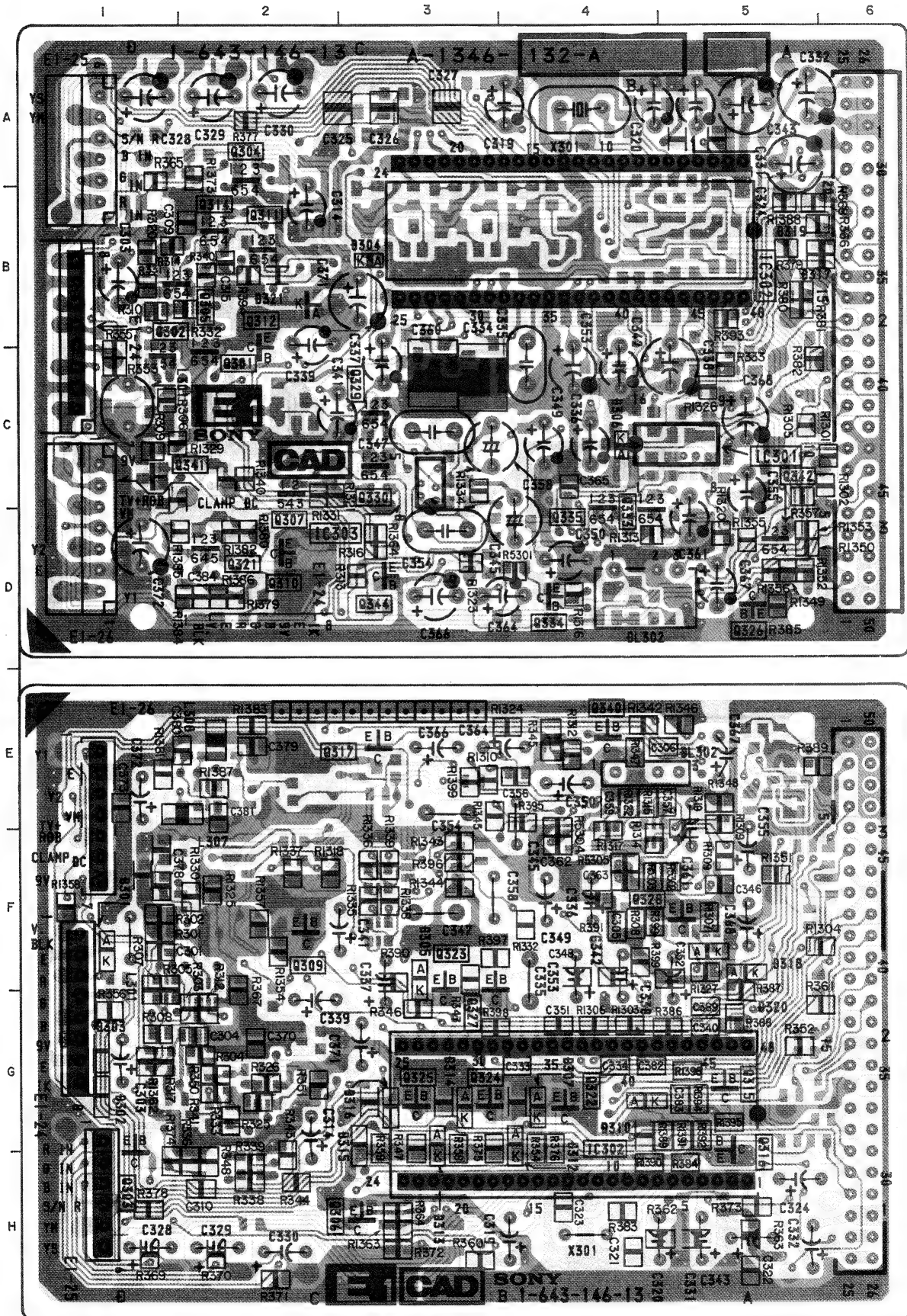
[Y/C JUNGLE]

E

- E1 Board -

E1 Board

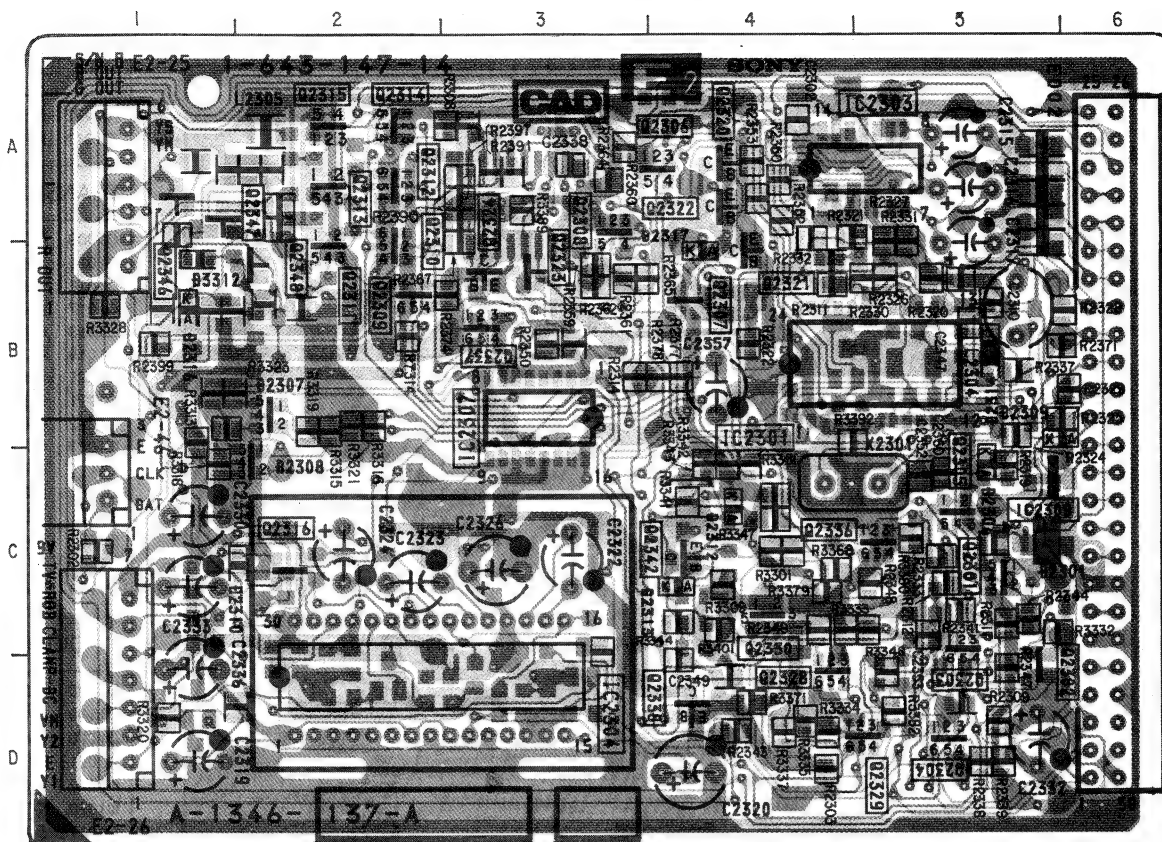
IC	
IC301	C-5
IC302	B-4, G-4
IC303	C-3
TRANSISTOR	
Q301	C-2
Q302	C-1
Q303	G-1
Q304	A-2
Q305	B-1
Q306	H-3
Q307	C-2
Q309	F-2
Q310	D-2
Q311	B-2
Q312	B-2
Q314	B-2
Q315	G-5
Q316	G-5
Q317	E-3
Q321	D-2
Q322	G-4
Q323	F-3
Q324	G-3
Q325	G-3
Q326	D-5
Q327	G-3
Q328	F-5
Q329	C-3
Q330	C-3
Q333	D-4
Q334	D-4
Q335	D-4
Q340	E-4
Q342	D-5
Q344	D-3
DIODE	
D301	F-1
D302	G-1
D303	G-1
D304	B-3
D305	F-3
D306	C-4
D307	G-4
D310	G-4
D312	G-4
D313	G-3
D314	G-3
D315	G-2
D316	G-3
D317	B-5
D318	F-5
D319	B-5
D320	G-5
D321	B-2



E2

SHARPNESS CONT.  
CHARACTOR GENERATER

- E2 Board -



E2 Board

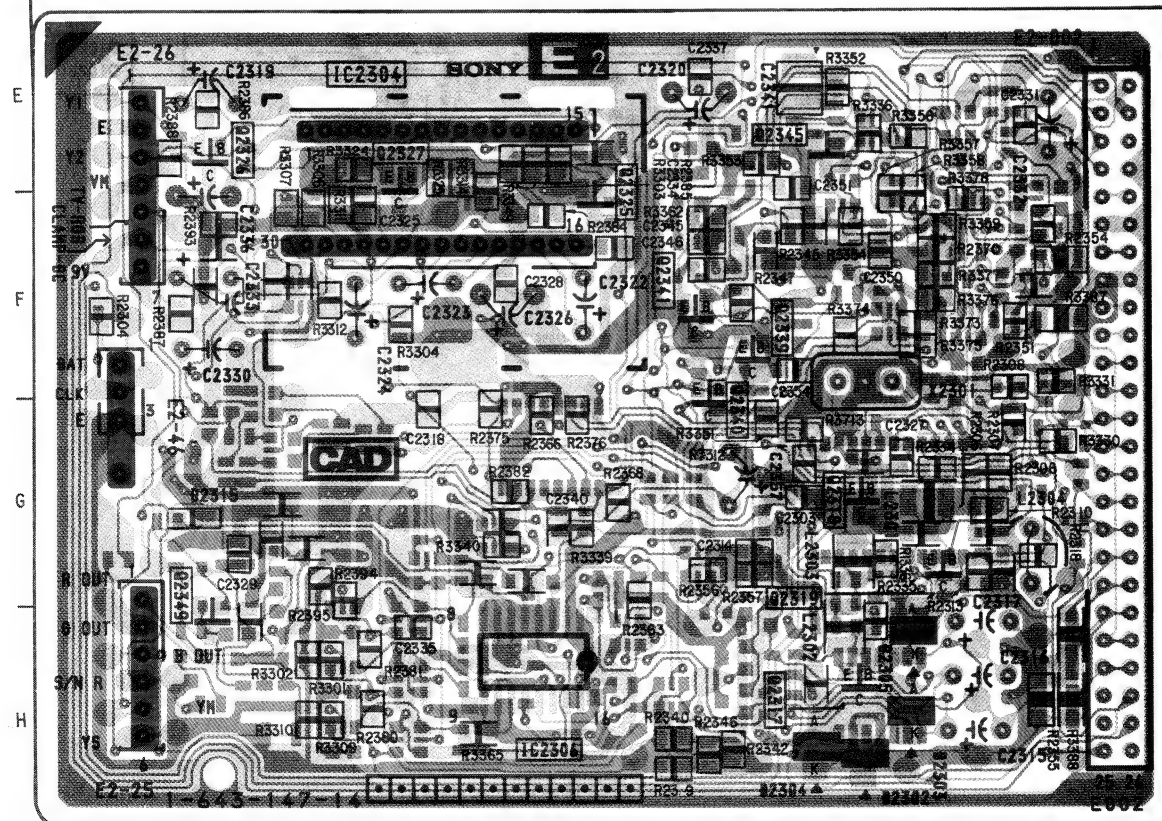
IC	
IC2301	B-4
IC2303	A-5
IC2304	D-3, E-2
IC2306	H-3
IC2307	B-3

TRANSISTOR

Q2301	C-5
Q2303	C-5
Q2304	D-5
Q2305	C-5
Q2306	A-3
Q2307	B-4
Q2308	A-3
Q2309	B-2
Q2310	A-2
Q2311	A-2
Q2312	A-2
Q2313	A-2
Q2314	A-2
Q2315	A-2
Q2317	H-4
Q2318	G-4
Q2319	G-5
Q2320	A-4
Q2321	A-4
Q2322	A-4
Q2324	B-3
Q2326	E-1
Q2327	E-2
Q2330	C-4
Q2337	B-3
Q2338	D-4
Q2339	F-4
Q2340	F-4
Q2341	F-4
Q2342	C-4
Q2345	E-4

DIODE

D2306	C-5
D2307	B-2
D2308	B-2
D2309	B-5
D2312	C-4
D2313	C-4
D2314	B-5
D2317	A-4



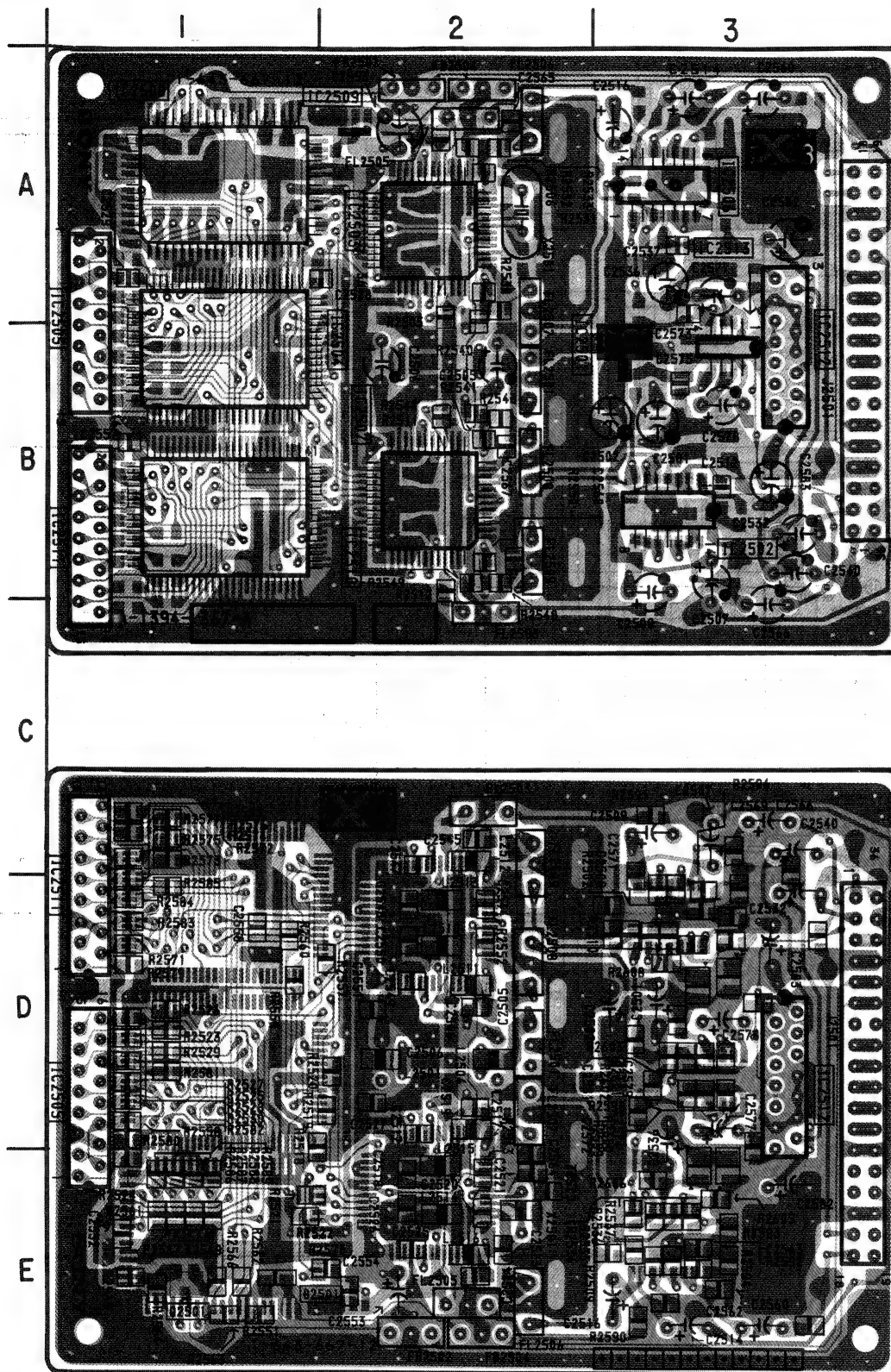
- : Pattern from the side which enables seeing.
- : Pattern of the rear side.



# X3

[DIGITAL SIGNAL PROCESSOR]

— X3 Board —



X3 Board

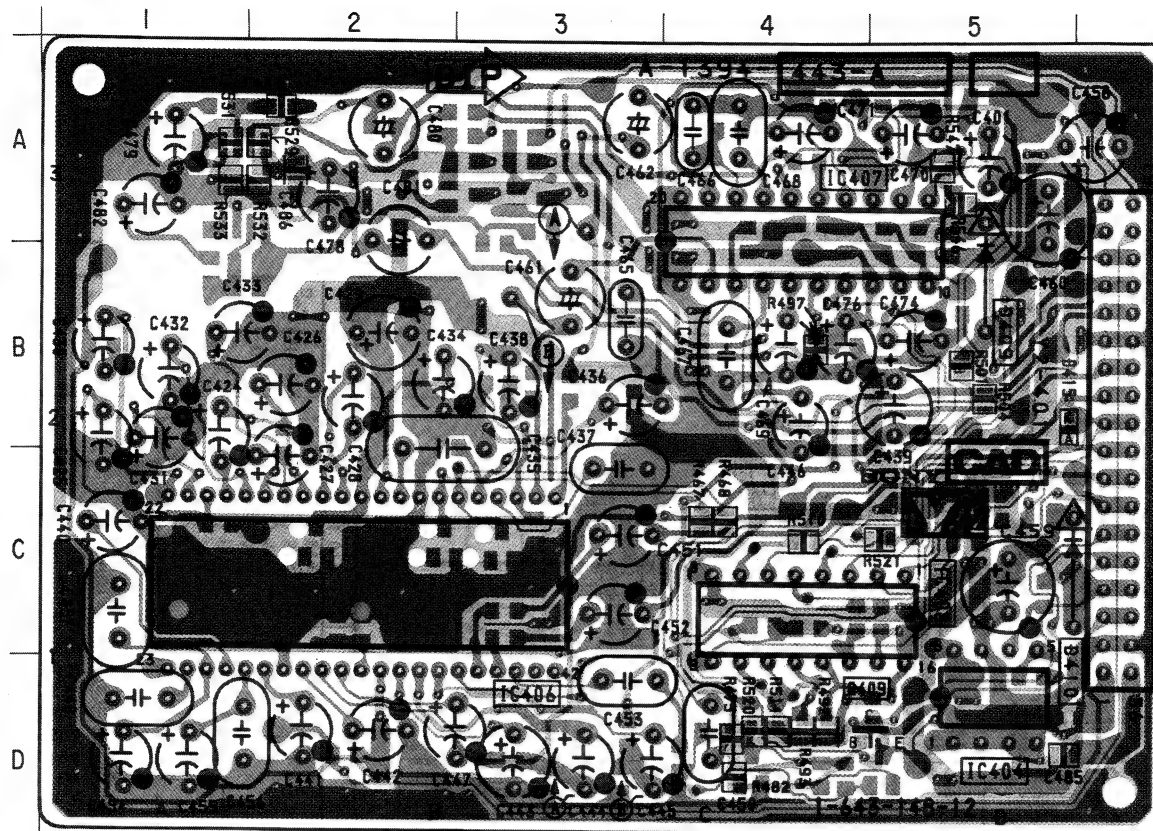
IC	
IC2501	B-3
IC2502	B-3
IC2503	A-2
IC2504	B-1
IC2506	A-3
IC2507	B-2
IC2508	A-1
IC2509	A-2
IC2510	B-1
IC2511	B-1, D-1
IC2512	B-3, D-3
IC2513	B-3
TRANSISTOR	
Q2501	E-1
DIODE	
D2501	E-2
CRYSTAL	
X2501	A-2

- : Pattern from the side which enables seeing.
- : Pattern of the rear side.

MTS DECODER,  
NVM,  
AUDIO CONT.

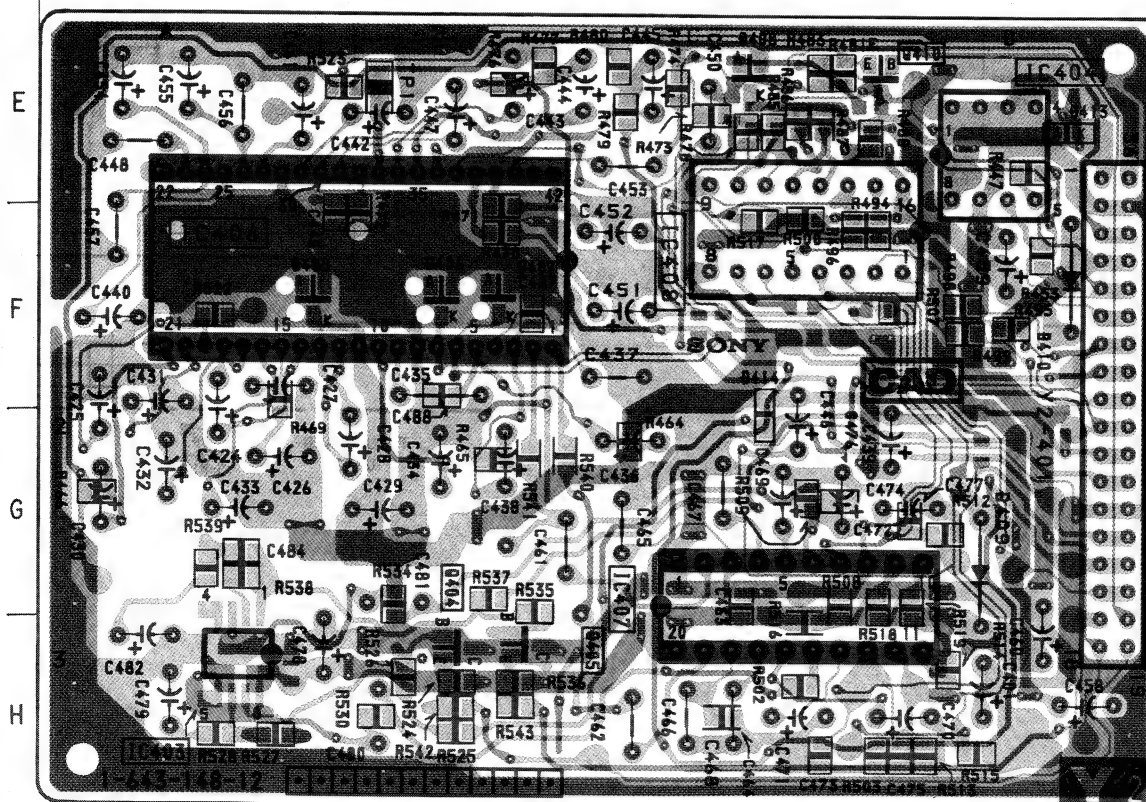
MTS DECODER,  
NVM,  
AUDIO CONT.


– Y2 Board –



## Y2 Board

IC	
IC403	H-1
IC404	D-5, E-5
IC406	C-2, F-2
IC407	A-4, G-4
IC408	C-4, F-4
TRANSISTOR	
Q404	H-3
Q405	H-3
Q409	D-5
Q410	E-5
DIODE	
D405	F-2
D406	F-2
D407	F-3
D408	E-4
D409	A-5
D410	C-5, F-5
D413	E-6
D414	F-4
D415	B-5



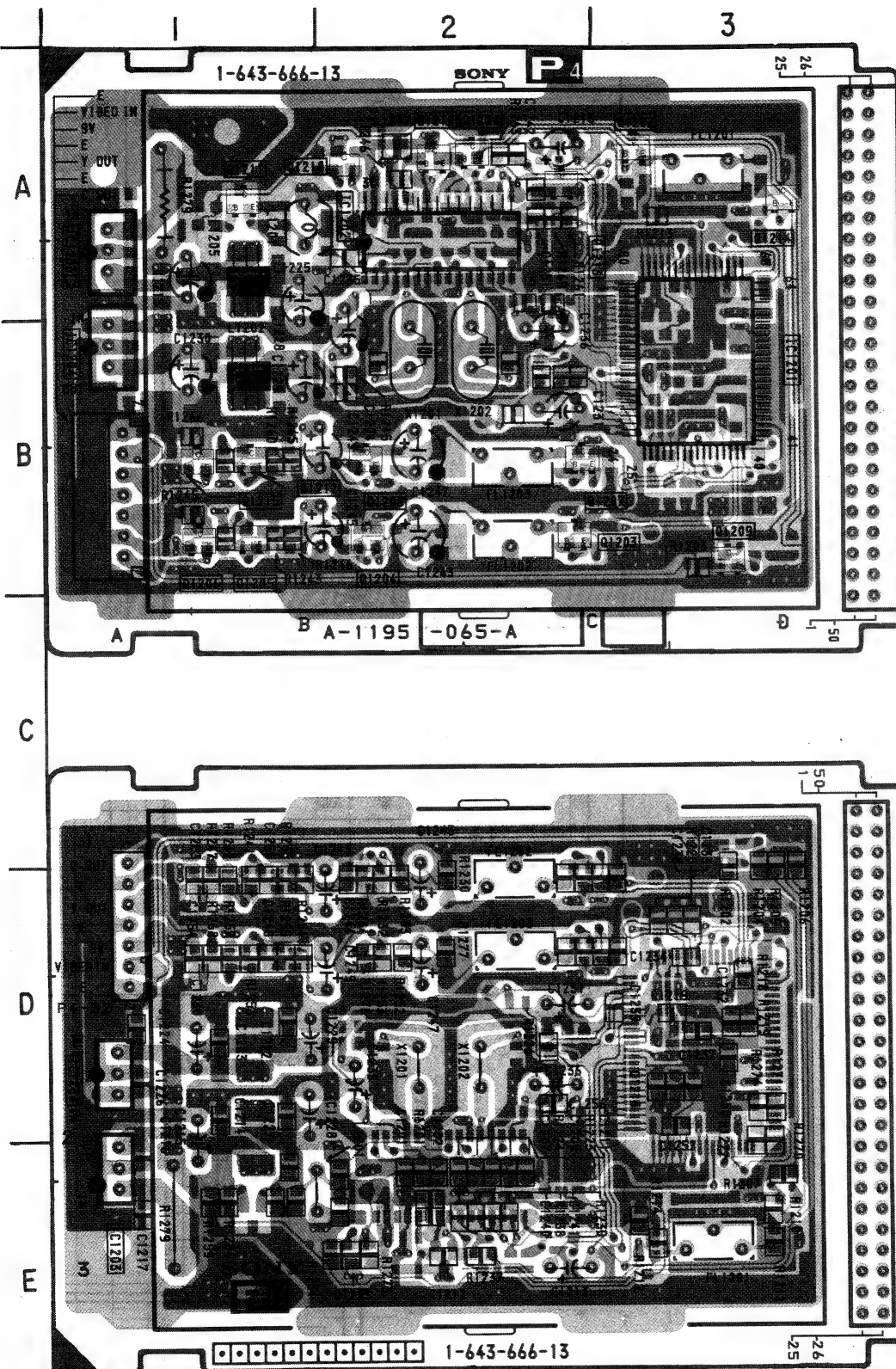
-  : Pattern from the side which enables seeing.
-  : Pattern of the rear side.



**P<sub>4</sub>**

[DIGITAL COMB FILTER]

— P<sub>4</sub> Board —

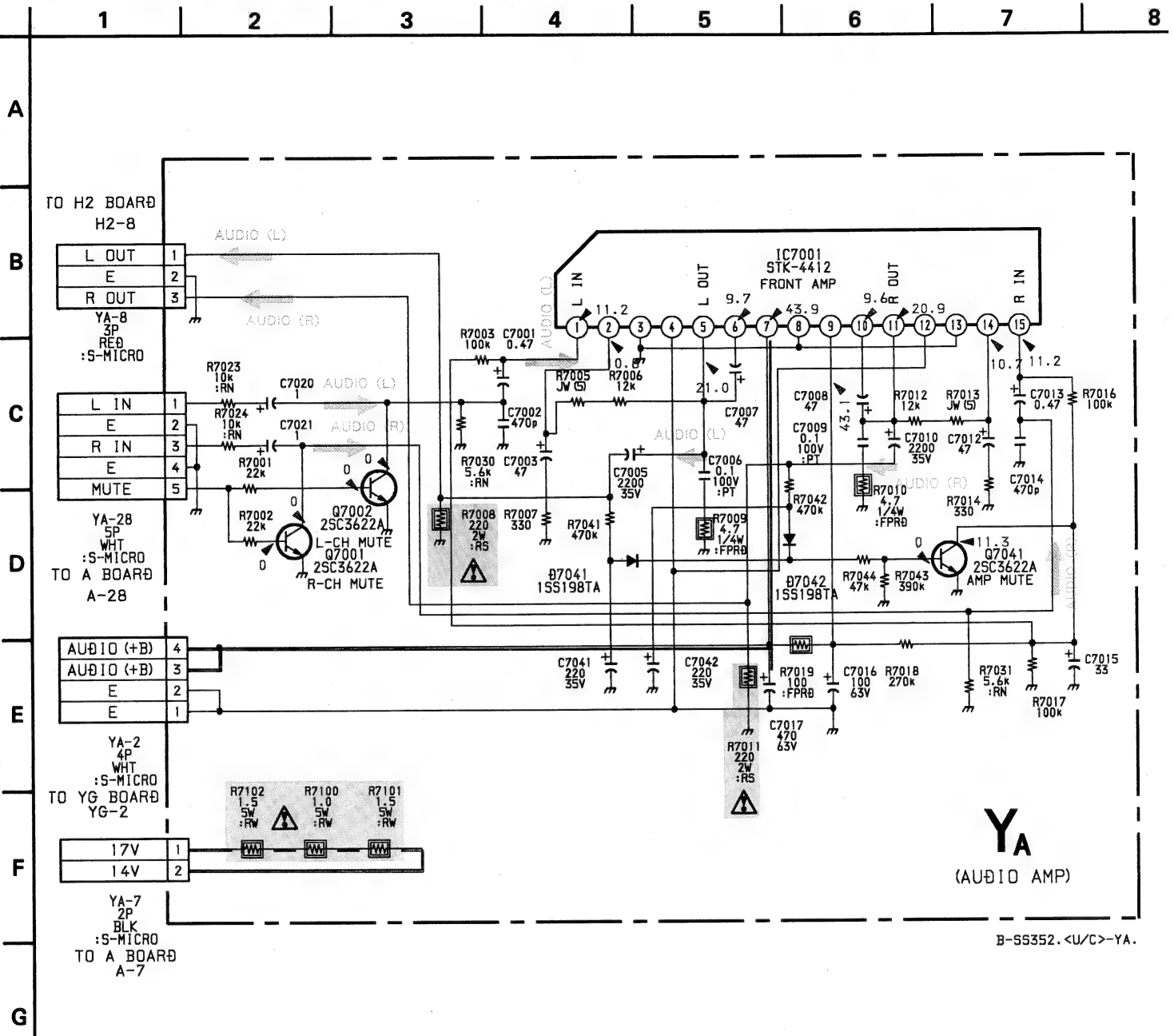


**P<sub>4</sub> Board**

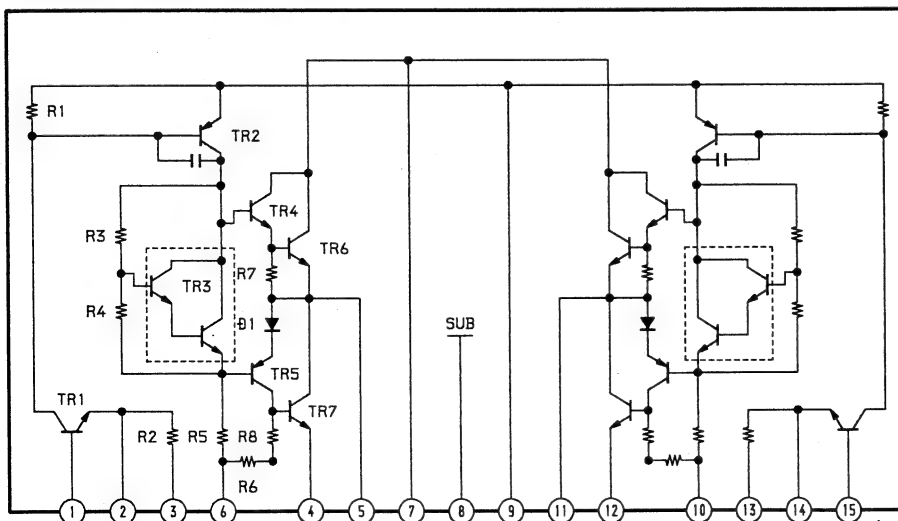
IC	
IC1201	B-3
IC1202	A-2
IC1203	A-1, E-1
IC1204	B-1, D-1
TRANSISTOR	
Q1202	A-3
Q1203	B-2
Q1204	B-2
Q1205	B-1
Q1206	B-1
Q1207	B-2
Q1208	B-2
Q1209	B-3
Q1211	A-1
Q1212	B-1
Q1213	A-2
Q1214	A-3
Q1215	B-1
Q1218	A-2
Q1220	A-2
CRYSTAL	
X1201	B-2, D-2
X1202	B-2, D-2

- : Pattern from the side which enables seeing.
- : Pattern of the rear side.

(10) SCHEMATIC DIAGRAM OF YA BOARD



YA Board IC7001 STK4412

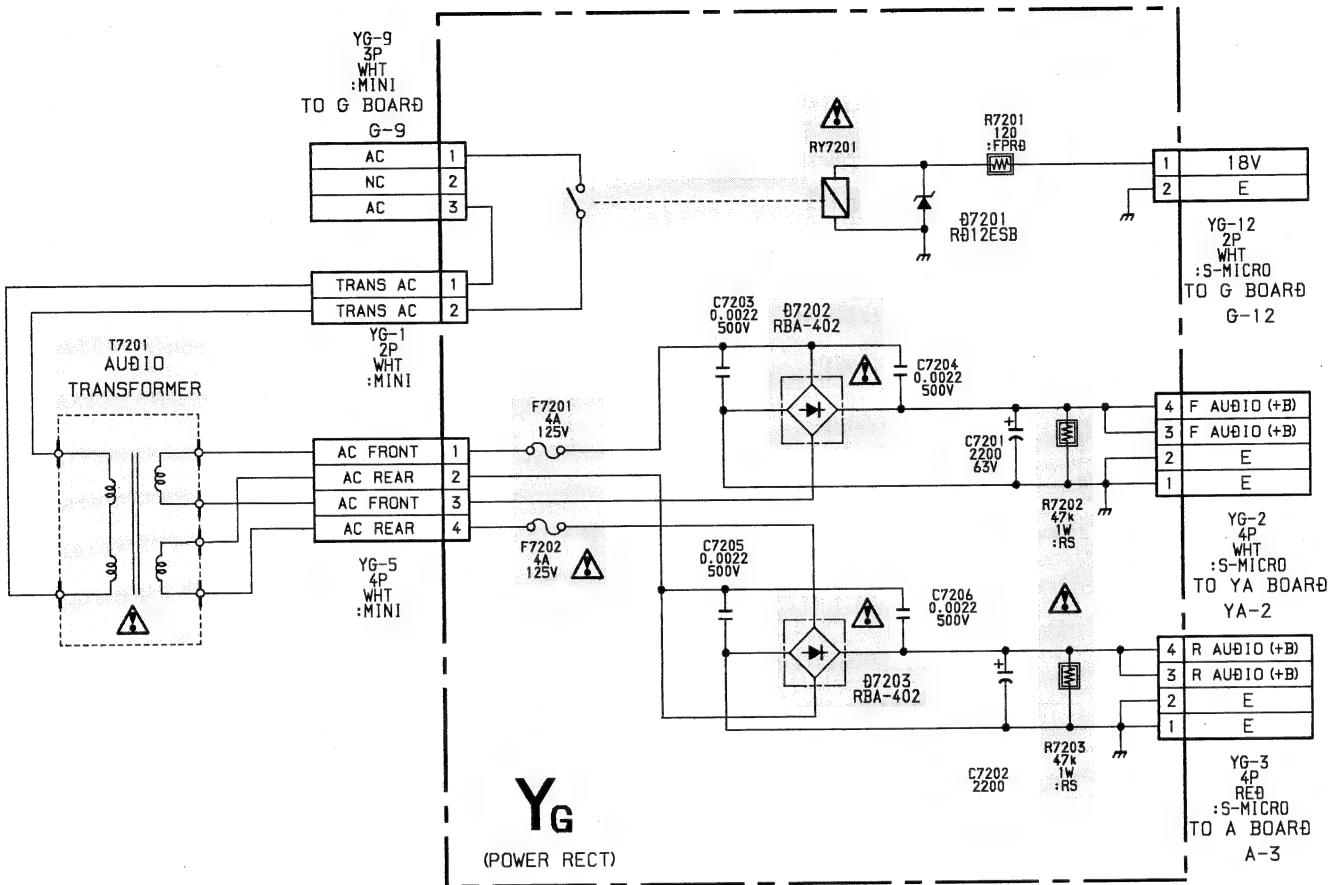


100

(11) SCHEMATIC DIAGRAM OF YG BOARD

YG

- YG I

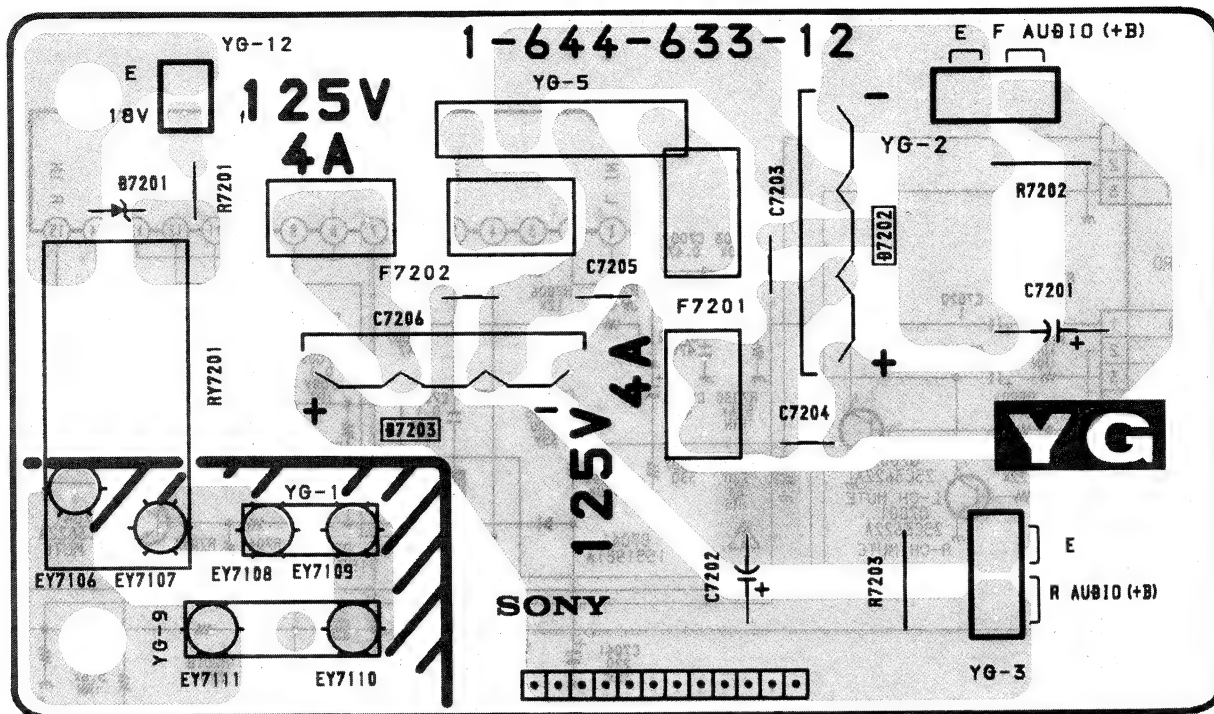


B-55352. <U/C>-YG.

**YG**


[POWER RECT]

— YG Board —





2ND CONT.  $\mu$ -CON FOR PIP,  
2ND TUNER-VIF/SIF FOR PIP,  
Y/C JUNGLE FOR PIP,  
ANT SW CONT

-  : Pattern from the side which enables seeing.
-  : Pattern of the rear side.

<b>IC</b>		Q2011 A-7	<b>DIODE</b>
		Q2012 A-7	
IC2001 E-3, E-5		Q2015 D-6	
IC2002 C-3, C-6		Q2016 D-6	
IC2003 C-2, C-7		Q2017 D-6	D2003 E-6
IC2004 B-2, B-6		Q2018 E-6	D2004 C-7
IC2005 C-1, C-7		Q2019 E-6	D2005 D-7
IC2006 E-1, E-7		Q2021 D-6	D2006 C-6
IC2007 D-1, D-7		Q2022 C-7	<b>VARIABLE RESISTOR</b>
		Q2023 C-7	
		Q2024 B-7	
		Q2025 B-7	
<b>TRANSISTOR</b>		Q2026 B-7	RV2001 D-3, D-5
		Q2027 B-7	RV2002 C-2, C-7
		Q2028 B-7	RV2003 E-1, E-7
		Q2029 B-7	RV2004 D-1, D-7
Q2001 D-5		Q2030 C-5	<b>TUNER</b>
Q2002 D-6		Q2031 D-5	
Q2003 D-6		Q2032 D-7	
Q2004 C-6		Q2033 D-2, D-6	
Q2005 B-7		Q2034 D-7	<b>CRYSTAL</b>
Q2006 A-6		Q2035 D-6	
Q2007 A-7		Q2036 B-7	
Q2008 D-5			
Q2009 A-7			X2001 C-2, C-6
Q2010 B-7			X2002 D-1, D-7

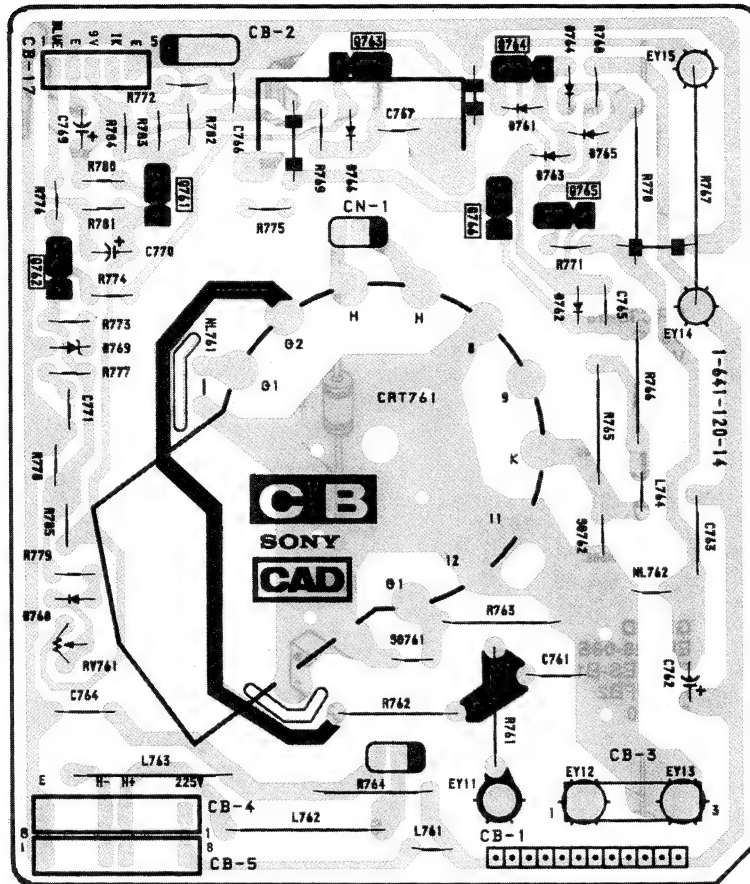
**CB**

[B OUT]

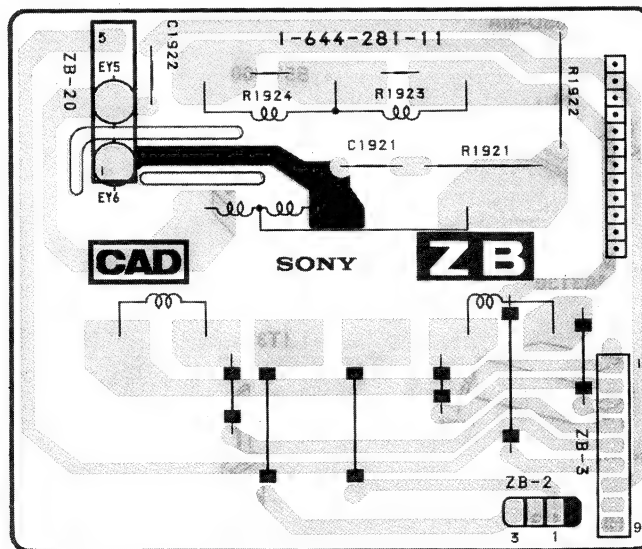
**ZB**

[DY I/F]

— CB Board —

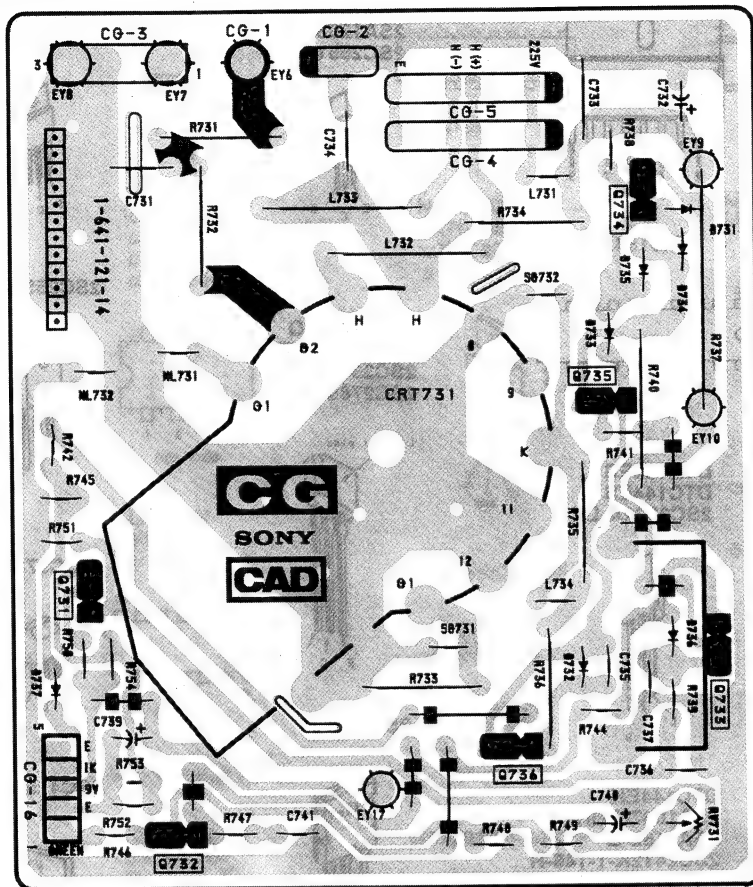


— ZB Board —

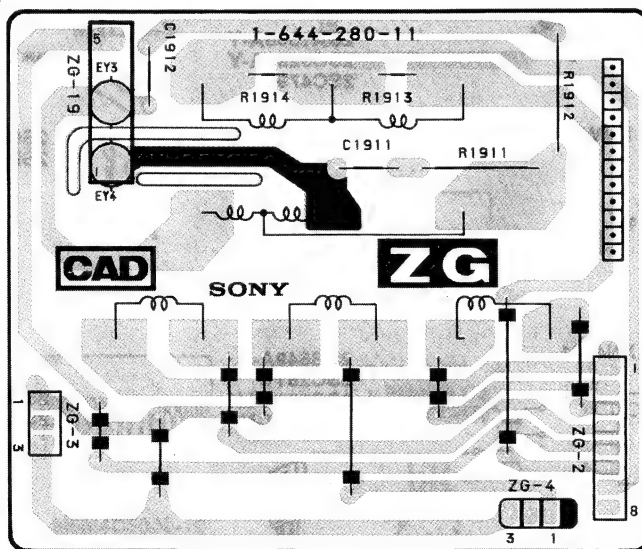


**Cg** [G OUT] **Zg** [DY I/F]

— CG Board —



— ZG Board —





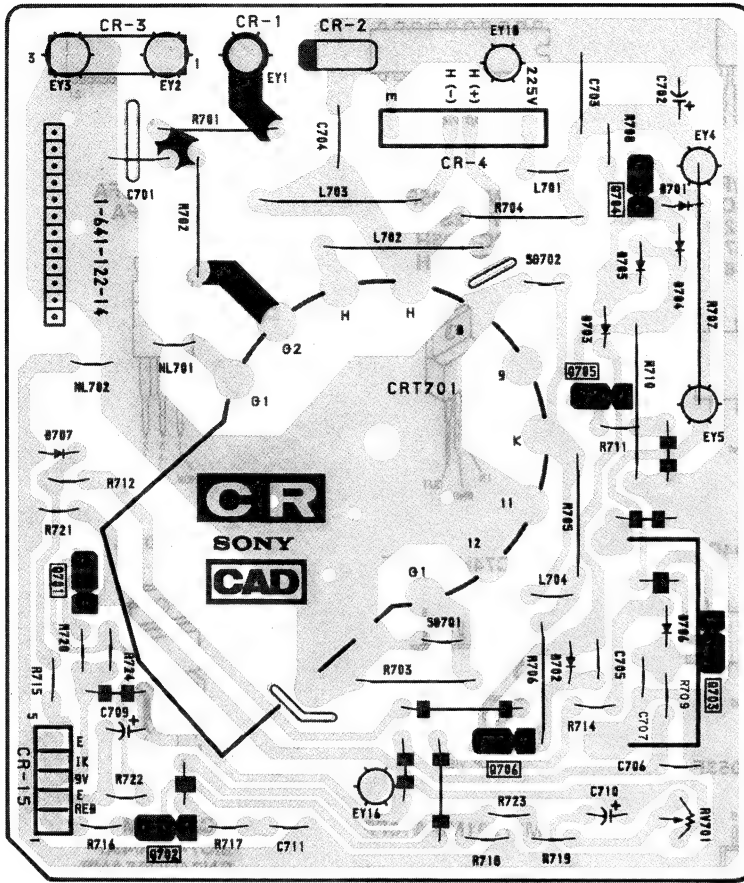
**CR**

[R OUT]

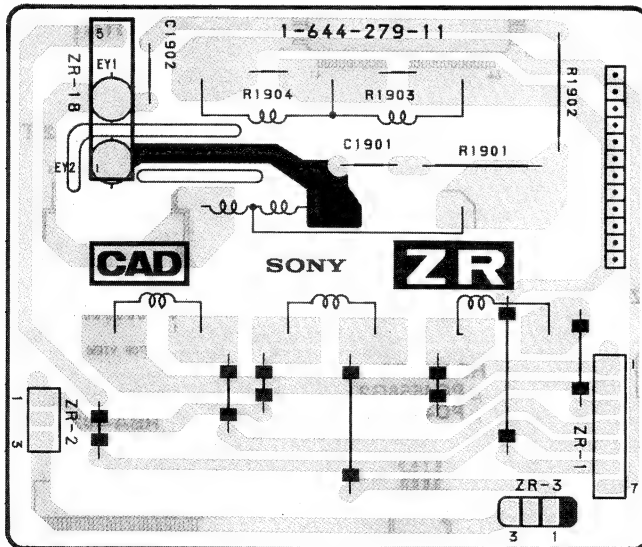
**ZR**

[DY I/F]

— CR Board —

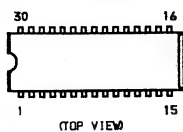


— ZR Board —

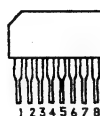


## 6-7. SEMICONDUCTORS

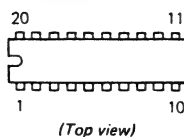
**CXA1387S**



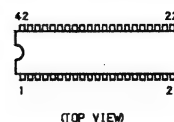
**CXA20061  
M5220L**



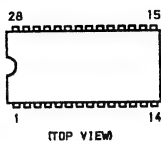
**M52678P**



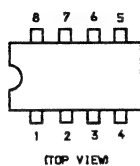
**CXA1264AS  
PA0036**



**CXA1228S  
CXA1268P**



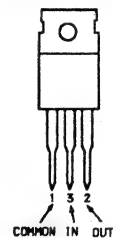
**24C04AI/P  
μ PC393C  
μ PC4082C  
μ PC4557C  
μ PC4558C**



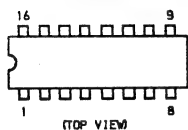
**NJM78M05FA  
TA7812S  
μ PC7805H  
μ PC7812H**



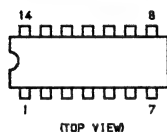
**NJM79M05FA  
NJM7915FA**



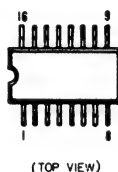
**CXA1315M  
CXA1315P  
μ PD4053BC**



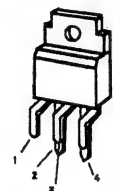
**LM314N  
MB3614  
μ PC1394C**



**MC74HC4053F**



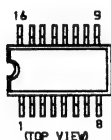
**SI-3090CA**



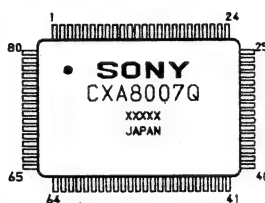
**CXA1464AS**



**MC74HC4053F**



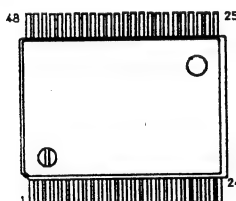
**M37201M6-A18FP**



**MC33174M  
MC74HC04AF  
SN74HC05ANS**



**CXA1545S**



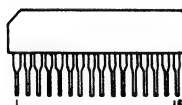
**MN1280-S**



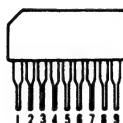
**LC7458A-02**



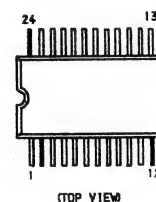
**MB81256-12PSZ**



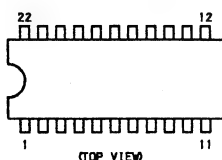
**NJM2903S**



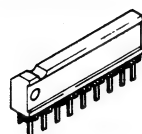
**PCA8510T/012-T**



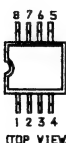
**CXA1656S  
LA7945**



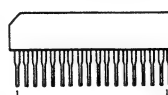
**M5M4C500L-10**



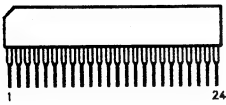
**RC4558PS  
μ PC4558G2  
μ PC4570G2**



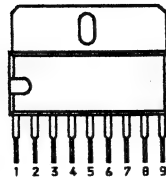
**RBA-402**



STK-4278L



μPC1498H



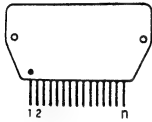
2SA1013-O  
2SD788-5  
2SA1091-O  
2SA1208-S  
2SC2551-O



2SB861-C  
2SB1015-Y  
2SC3675  
2SD1406-YGR

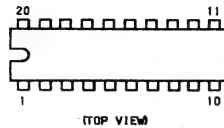


STK4412



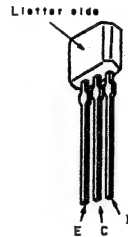
MARKING SIDE VIEW

TA8184P



(TOP VIEW)

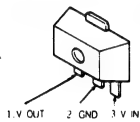
2SA1309A-Q  
2SA1175-HFE  
2SC3311A-Q  
2SC2785-HFE



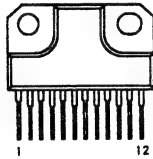
2SC2555-2



S-80743AL-A7-S



TA8216H



DTA124ES  
DTC144ES  
2SC3622A-LK



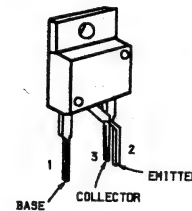
2SC3733



2SA1301-O

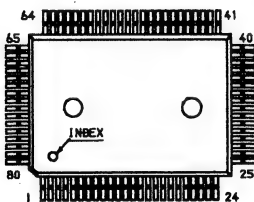


2SC4256CB

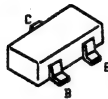


CXD1160AQ  
CXD1220AQ  
TMC73C247-10

MARKING SIDE VIEW



DTC144EK  
2SA1037K-QR  
2SA1162-G  
2SC2412K-T-146-R  
2SC2412K-QR  
2SD601A-Q



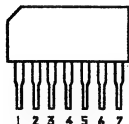
2SA1306A-Y  
2SC3298A-Y  
2SC4793



2SC4582-NP  
2SD2012



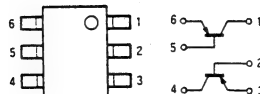
μPC1037HA



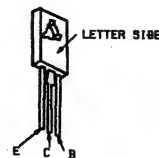
FMW1



XN4401



2SB649A-C  
2SC2611  
2SC2688-LK  
2SC3271-N



2SC4891-CA  
2SD1887-CA



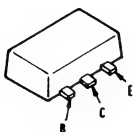
μPC78N05H



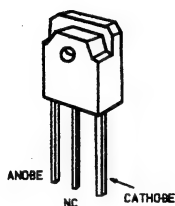
IMX3  
IMZ1



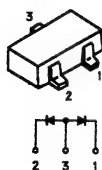
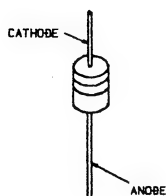
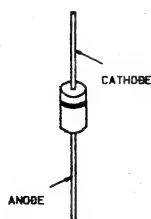
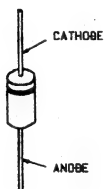
2SD874A-R

D10SC6M  
D10SC6MR  
D5KC40H

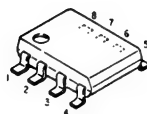
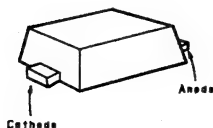
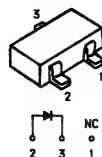
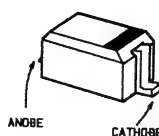
DD50R



CXK1006L

D1N20R  
EGP10D  
RB-100A  
RD13ES-B2  
RD18ES-B2  
RD2.0ES-B1  
RD24ES-B3  
RD3.3ES-B2  
RD3.9ES-B1  
RD33ES-B2  
RD39ES-B2  
RD4.7ES-B2  
RD5.1-B1  
RD5.1ES-B2  
RD5.6ES-B2  
RD7.5ES-B1  
RD9.1ES-B2  
1SS119ERC06-15S  
RU-1C  
RU-2AMERC38-06  
V06C  
V09G  
V19E  
V30NGP08D  
ERD28-08S  
RD12ES-B1  
RD27FB2  
SB140

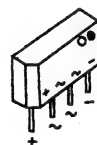
L78LR05D-MA

MA110  
MA3130RD15M-B1  
RD18M-B1  
RD3.3M-B1  
RD5.1M-B3  
RD6.8M-B1RD15S-B  
RD5.6S-B  
RD6.2S-B

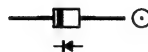
RD9.1E-W



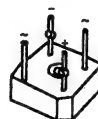
S1VB40



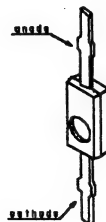
S3V10SB



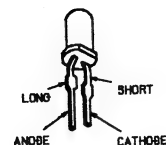
S5VB60



1T33



TLR124



## SECTION 7 EXPLODED VIEWS

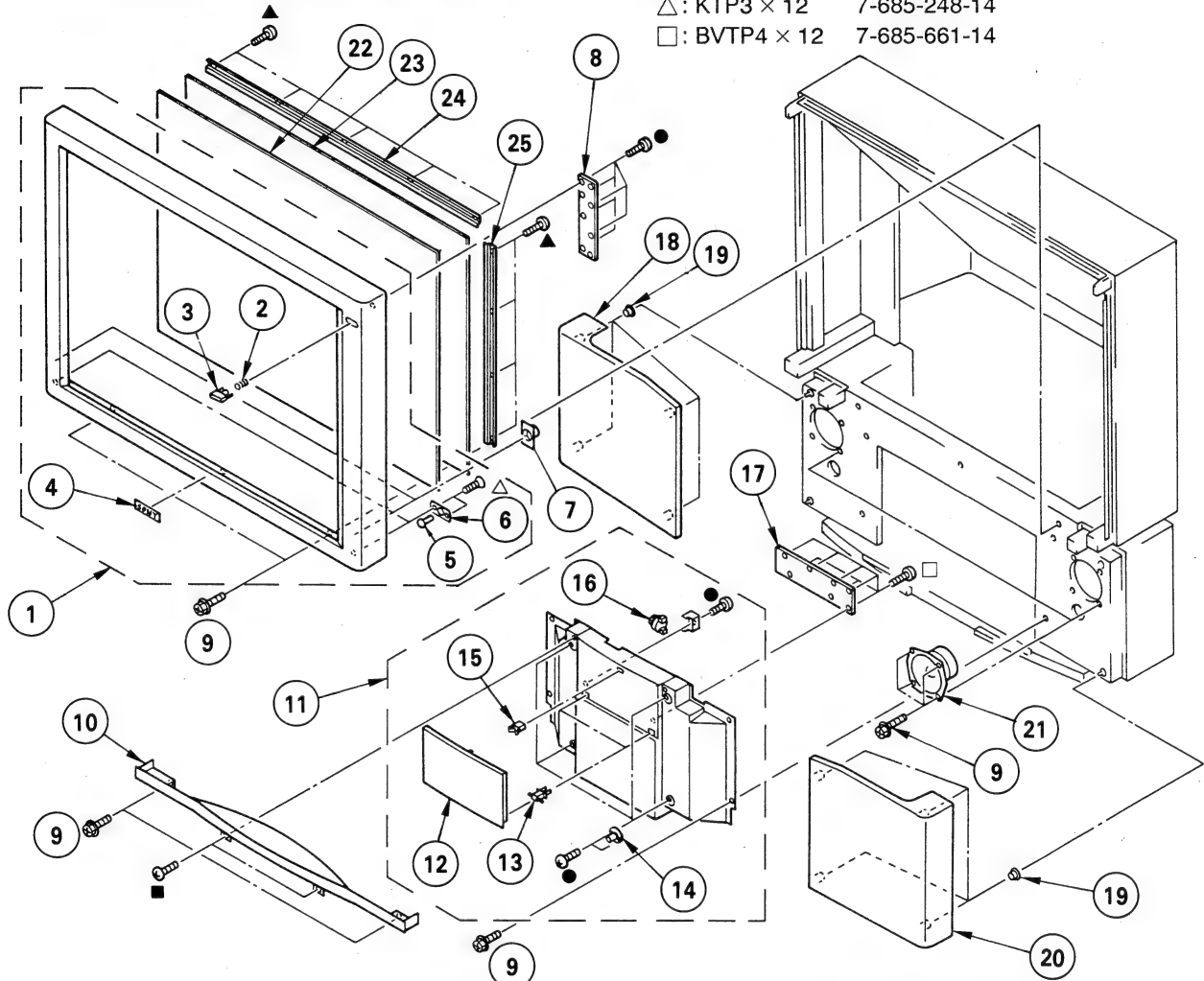
### NOTE:

- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

Les composants identifiés par une trame et une marque ▲ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

The components identified by shading and mark ▲ are critical for safety. Replace only with part number specified.

### 7-1-1. SCREEN FRAME AND CONTROL PANEL (KP-46XBR25 / 53XBR25 (US/CND))

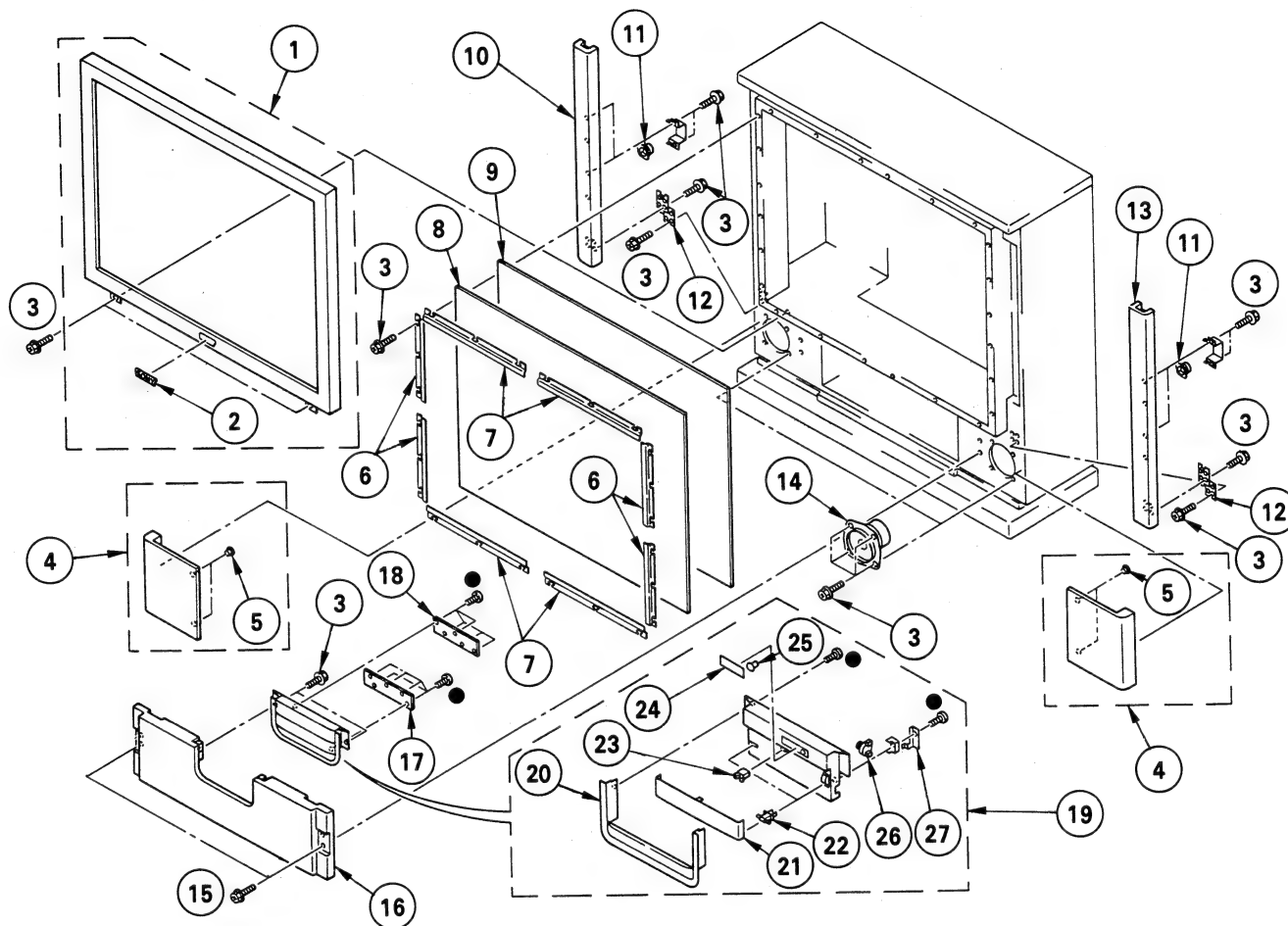


- : BVTP3 × 12 7-685-648-79
- : BVTP4 × 16 7-685-663-79
- ▲: BVTP4 × 12 7-685-661-79
- △: KTP3 × 12 7-685-248-14
- : BVTP4 × 12 7-685-661-14

REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
1	X-4030-193-1	FRAME ASSY, SCREEN 2-6 (KP-46XBR25)		17	*1-643-592-11	H2 BOARD	
1	X-4031-194-1	FRAME ASSY, SCREEN 2-6 (KP-53XBR25 (U/C))		18	X-4030-553-1	GRILLE (L) ASSY, SPEAKER (KP-53XBR25 (U/C))	
2	3-566-903-00	SPRING		18	X-4030-570-1	GRILLE (L) ASSY, SPEAKER (KP-46XBR25)	
3	4-036-523-01	BUTTON, PWQR		19	4-838-438-00	LATCH	
4	4-381-079-01	EMBLEM (NO.10), SONY		20	X-4030-552-1	GRILLE (R) ASSY, SPEAKER (KP-53XBR25 (U/C))	
5	4-838-452-00	STRIKE		20	X-4030-569-1	GRILLE (R) ASSY, SPEAKER (KP-46XBR25)	
6	4-838-453-00	SUPPORT		21	1-504-141-11	SPEAKER (13CM)	
7	1-544-580-21	SPEAKER (2.5CM)		22	4-036-466-11	PLATE (L), SIFFUSION (KP-53XBR25 (U/C))	
8	*1-643-591-11	H1 BOARD		22	4-037-360-11	PLATE (L), SIFFUSION (KP-46XBR25)	
9	4-378-522-31	SCREW, TAPPING, HEXAGON HEAD		23	4-036-469-11	PLATE (F), SIFFUSION (KP-53XBR25 (U/C))	
10	4-036-470-01	ESCUTCHEON, FRONT		23	4-037-359-11	PLATE (F), SIFFUSION (KP-46XBR25)	
11	X-4030-571-1	PANEL ASSY, CONTROL (KP-46XBR25)	12-16	24	*4-036-091-11	HOLDER (L), SCRREN (KP-53XBR25 (U/C))	
11	X-4030-554-1	PANEL ASSY, CONTROL (KP-53XBR25 (U/C))	12-16	24	*4-036-091-21	HOLDER (L), SCRREN (KP-46XBR25)	
12	4-036-461-01	LID, CONTROL		25	*4-036-092-11	HOLDER (S), SCRREN (KP-53XBR25 (U/C))	
13	3-703-035-11	SHAFT, LID		25	*4-036-092-21	HOLDER (S), SCRREN (KP-46XBR25)	
14	4-843-806-00	STRIKE					
15	4-374-714-01	CATCH, PUSH					
16	3-721-204-21	DAMPER					

## 7-1-2. SCREEN FRAME AND CONTROL PANEL (KP-61XBR28)

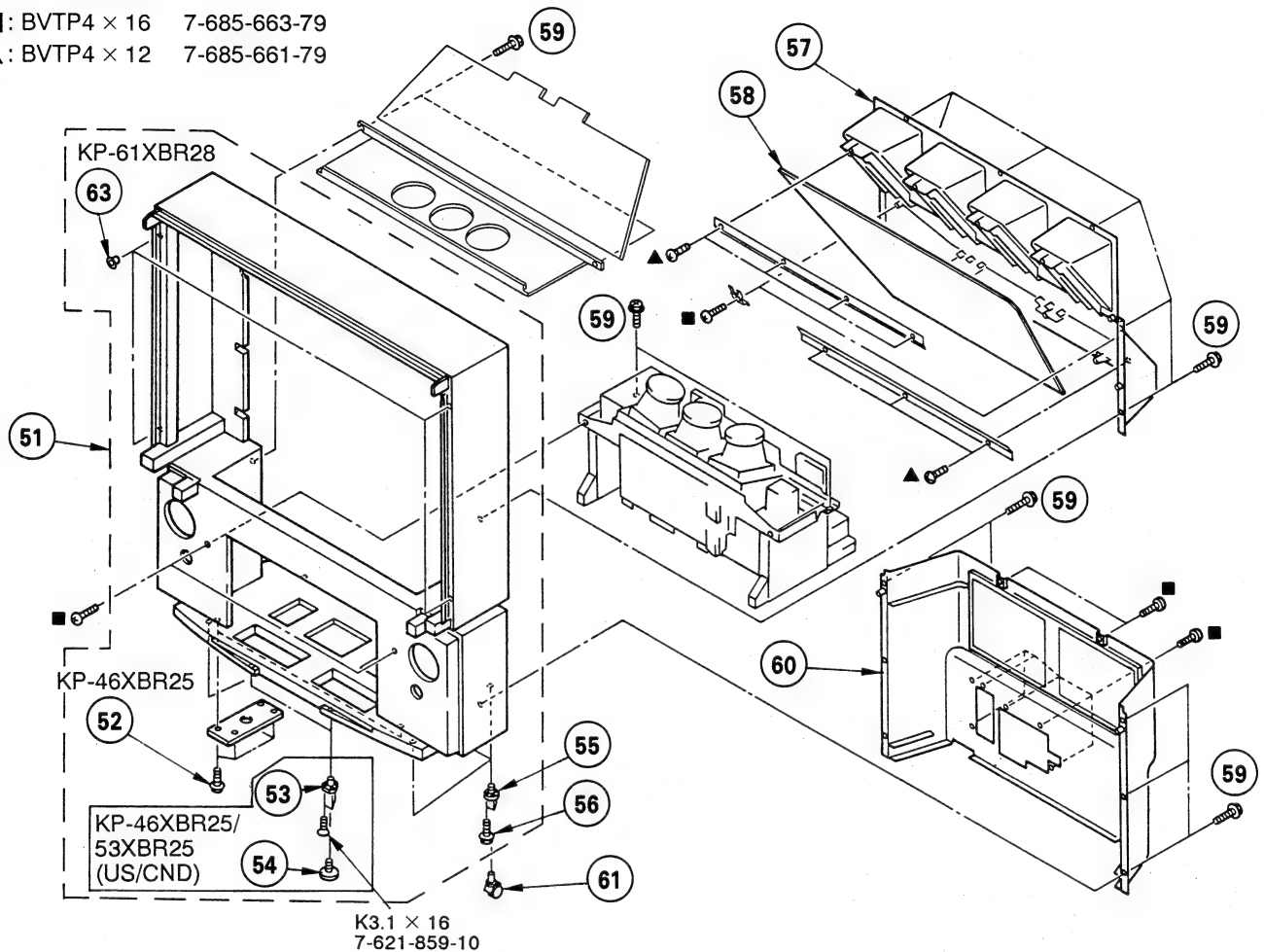
●: BVTP3 × 12 7-685-648-79



REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
1	X-4031-177-1	FRAME ASSY, SCREEN		16	4-040-581-01	PANEL, FRONT	
2	4-381-079-01	EMBLEM (NO.10), SONY	2	17	*1-643-592-11	H2 BOARD	
3	4-378-522-31	SCREW, TAPPING, HEXAGON HEAD		18	*1-643-591-11	H1 BOARD	
4	X-4031-175-1	GRILLE (B) ASSY, SPEAKER	5	19	X-4031-179-1	PANEL ASSY, CONTROL	20-27
5	4-838-438-00	LATCH		20	4-040-584-01	COVER, EDGE	
6	*4-040-122-01	HOLDER (S), SCREEN		21	4-036-511-21	LID, CONTROL	
7	*4-040-120-01	HOLDER (L), SCREEN		22	3-703-035-11	SHAFT, LID	
8	4-040-124-11	PLATE (L), DIFFUSION		23	4-374-714-01	CATCH, PUSH	
9	4-040-123-11	PLATE (R), DIFFUSION		24	4-036-510-21	PANEL, INDICATOR	
10	X-4031-174-1	GRILLE (T/L) ASSY, SPEAKER		25	*4-374-987-01	GUIDE, LIGHT	
11	1-504-312-11	SPEAKER (SQUAWKER) (5CM)		26	3-720-417-01	DAMPER, OIL	
12	*4-040-600-01	BRACKET, SPEAKER GRILLE		27	4-036-513-01	SPRING, LID	
13	X-4031-173-1	GRILLE (T/R) ASSY, SPEAKER					
14	1-504-313-11	SPEAKER (16CM)					
15	4-378-522-21	SCREW, TAPPING, HEXAGON HEAD					

## 7-2. CABINET

■: BVTP4 × 16 7-685-663-79  
▲: BVTP4 × 12 7-685-661-79



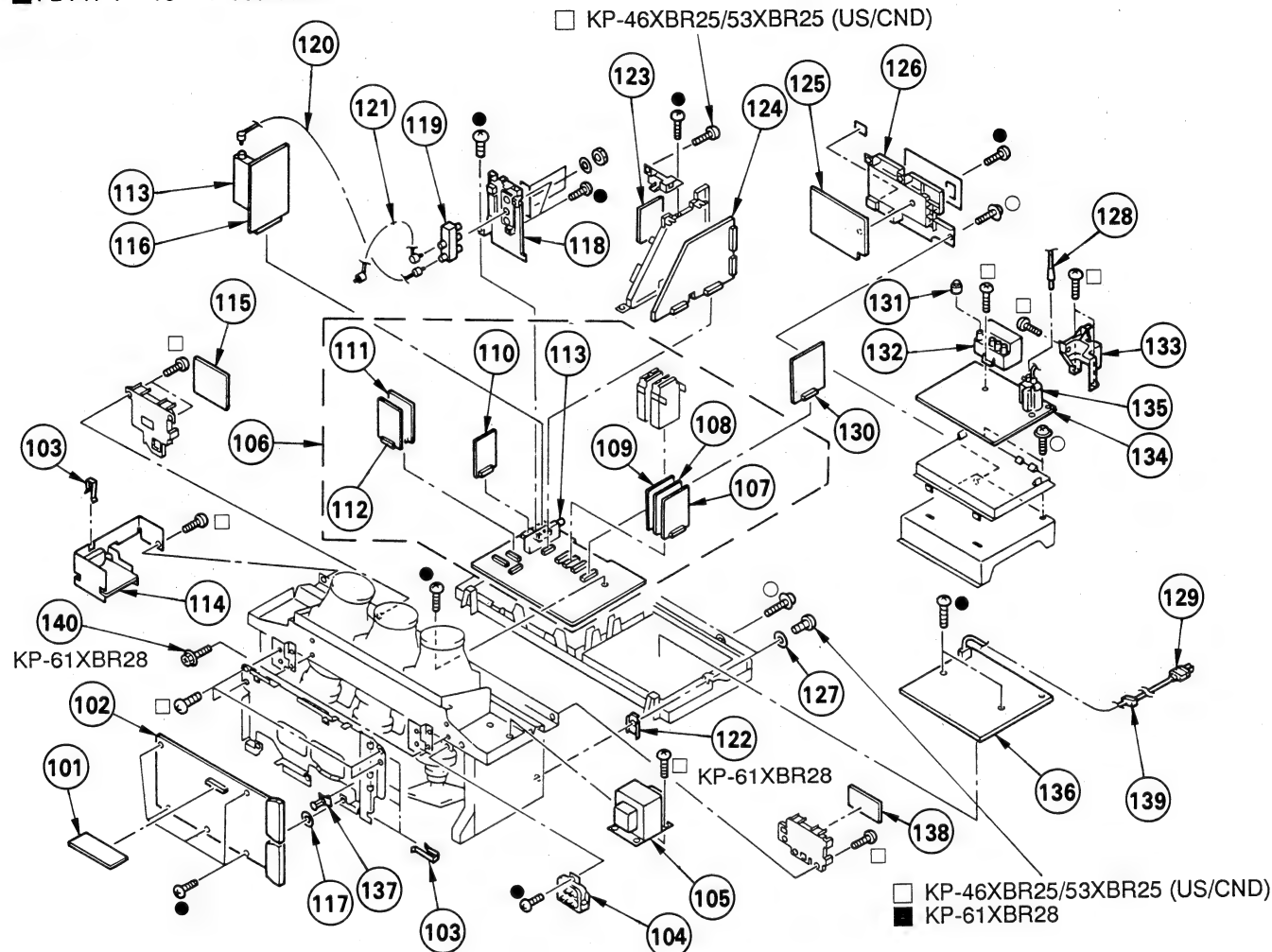
REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
51	*X-4031-084-1	CABINET ASSY	52-56 (KP-46XBR25)	58	4-040-713-01	MIRROR, REFLECTION	(KP-61XBR28)
51	*X-4031-176-1	CABINET ASSY	55, 56, 63 (KP-61XBR28)	59	4-378-522-31	SCREW, TAPPING, HEXAGON HEAD	
51	*X-4031-198-1	CABINET ASSY	53-56 (KP-53XBR25(U/C))	60	X-4030-549-1	COVER ASSY, BACK	
52	4-378-522-21	SCREW, TAPPING, HEXAGON HEAD	(KP-46XBR25)	61	4-032-343-11	CASTER	(KP-46XBR28/53XBR25(U/C))
				61	4-040-508-01	CASTER	(KP-61XBR28)
53	4-037-473-01	NUT, FITTING	(KP-46XBR25/53XBR25(U/C))	63	4-838-438-00	LATCH	(KP-61XBR28)
54	4-037-472-02	LEG, ADJUSTABLE	(KP-46XBR25/53XBR25(U/C))				
55	4-030-850-01	SOCKET, CASTER					
56	4-378-522-01	SCREW, TAPPING, HEXAGON HEAD					
57	4-036-462-01	COVER (46"), MIRROR	(KP-46XBR25)				
57	4-036-474-01	COVER (53"), MIRROR	(KP-53XBR25(U/C)/61XBR28)				

Les composants identifiés par une trame et une marque  $\Delta$  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

The components identified by shading and mark  $\Delta$  are critical for safety. Replace only with part number specified.

### 7-3. CHASSIS

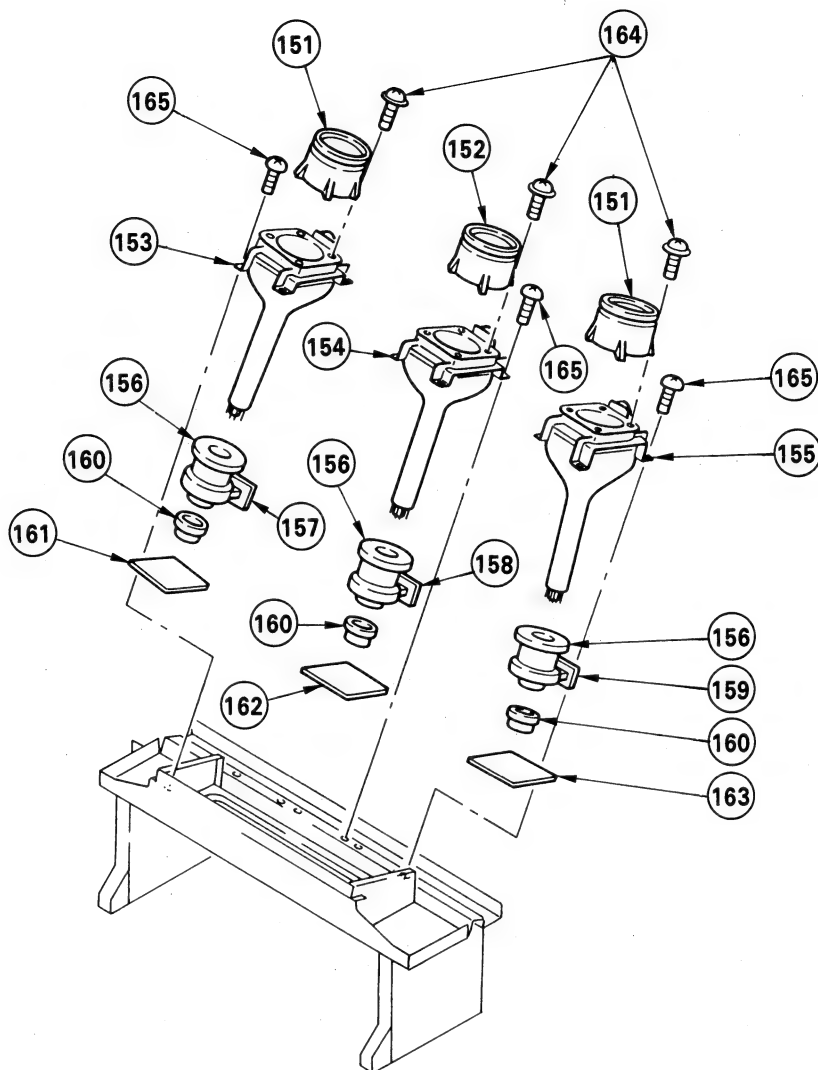
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- : BVTP4  $\times$  12 7-685-661-14
- : PSW4  $\times$  14 7-682-663-09
- : BVTP4  $\times$  16 7-685-663-79



REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
101	*1-644-278-11	DS BOARD		120	*1-557-056-31	CABLE, P-P	
102	*A-1346-117-A	D BOARD, COMPLETE		121	*1-555-400-00	CABLE, PIN	
103	*4-393-401-11	SPRING, TRANSISTOR		122	*4-040-160-01	SPACER	(KP-61XBR28)
104	$\Delta$ 1-241-744-11	RESISTOR ASSY (HIGH-VOLTAGE)		123	*A-1195-065-A	P4 BOARD, COMPLETE	
105	$\Delta$ 1-423-311-11	TRANSFORMER, POWER		124	*A-1394-429-A	U BOARD, COMPLETE	
106	*A-1297-104-A	A BOARD, COMPLETE	107-112	125	*A-1394-434-A	UT BOARDS, COMPLETE	
106	*A-1297-105-A	A BOARD, COMPLETE	107-112	126	4-036-138-11	PANEL, MAIN CONNECTOR	
107	*A-1346-138-A	E1 BOARD, COMPLETE	(KP-46XBR25/61XBR28)	127	4-039-112-01	WASHER, WAVE	
108	*A-1346-136-A	E2 BOARD, COMPLETE		128	$\Delta$ 1-559-865-41	LEAD ASSY, HIGH-VOLTAGE	
109	*A-1306-435-A	M BOARD, COMPLETE		129	$\Delta$ 1-696-002-11	CORD, POWER (WITH NOISE FILTER)	
110	*A-1195-067-A	P2 BOARD, COMPLETE		130	*A-1342-214-A	V BOARD, COMPLETE	
111	*A-1394-446-A	X3 BOARD, COMPLETE		131	4-373-137-01	CAP (Z), RUBBER	
112	*A-1394-442-A	Y2 BOARD, COMPLETE		132	$\Delta$ 1-453-108-11	DC BLOCK, HIGH-VOLTAGE	
113	$\Delta$ 1-693-102-22	TUNER (BTF-XA401)		133	4-034-482-01	COVER, FBT	
114	*1-644-632-11	YA BOARD		134	*A-1390-351-A	N BOARD, COMPLETE	
115	*A-1394-421-A	S BOARD, COMPLETE		135	$\Delta$ 1-453-121-11	TRANSFORMER ASSY, FLYBACK (NX-2630B4)	
116	*A-1195-069-A	P3 BOARD, COMPLETE		136	*A-1316-149-A	G BOARD, COMPLETE	
117	4-866-147-00	WASHER		137	*3-670-570-21	SPACER, SUPPORT	
118	4-036-137-03	PANEL, SUB CONNECTOR		138	*1-644-633-11	YG BOARD	
119	1-417-178-11	SELECTOR, ANTENNA (AS-2)		139	4-388-328-11	GROMMET, AC CORD	
				140	4-378-522-01	SCREW, TAPPING, HEXAGON HEAD (KP-61XBR28)	



# 7-4. PICTURE TUBE



REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
151	4-034-057-01	LENS (LINNIT) (KP-46XBR28/53XBR25(U/C))		155	△.8-736-640-05	PICTURE TUBE 07MK2(B) (SD-249)	
151	4-040-131-01	LENS (LINNIT POINT 6) (KP-61XBR28)		156	△.1-451-396-21	DEFLECTION YOKE (Y936PA)	
152	4-034-057-01	LENS (LINNIT) (KP-46XBR28/53XBR25(U/C))		157	*A-1390-340-A	ZR BOARD, COMPLETE	
152	4-040-131-11	LENS (LINNIT POINT 6) (KP-61XBR28)		158	*A-1390-346-A	ZG BOARD, COMPLETE	
153	△.8-736-633-05	PICTURE TUBE 07MK2(R) (SD-249)		159	*A-1390-347-A	ZB BOARD, COMPLETE	
		(KP-46XBR25/53XBR25(U/C))		160	.1-452-443-13	NECK ASSY, PICTURE TUBE (NA367)	
153	△.8-736-641-05	PICTURE TUBE 07MK2(R) (SD-249)		161	*A-1331-259-A	CR BOARD, COMPLETE	
		(KP-61XBR28)		162	*A-1331-260-A	CG BOARD, COMPLETE	
154	△.8-736-631-05	PICTURE TUBE 07MK3(G) (SD-249)		163	*A-1331-261-A	CB BOARD, COMPLETE	
		(KP-46XBR25/53XBR25(U/C))		164	3-701-810-91	SCREW, TERMINAL	
154	△.8-736-634-05	PICTURE TUBE 07MK3(G) (SD-249)		165	3-703-251-01	SCREW TP4X12 +PWH	
		(KP-61XBR28)					
155	△.8-736-632-05	PICTURE TUBE 07MK2(B) (SD-249)					
		(KP-46XBR25/53XBR25(U/C))					

Les composants identifiés par une trame et une marque △ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

The components identified by shading and mark △ are critical for safety. Replace only with part number specified.

# SECTION 8

## ELECTRICAL PARTS LIST

P4

### NOTE:

The components identified by shading and mark  $\Delta$  are critical for safety.  
Replace only with part number specified.

Les composants identifiés par une trame et une marque  $\Delta$  sont critiques pour la sécurité.  
Ne les remplacer que par une pièce portant le numéro spécifié.

• Items marked " \* " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

• All variable and adjustable resistors have characteristic curve B, unless otherwise noted.

### RESISTORS

• All resistors are in ohms  
• F : nonflammable

When indicating parts by reference number, please include the board name.

### CAPACITORS

### COILS

• MF :  $\mu$ F, PF :  $\mu$ MF • MMH : mH, UH :  $\mu$ H

• The components identified by  $\boxtimes$  in this manual have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation. Should replacement be required, replace only with the value originally used.

• \* : Selected to yield optimum performance.


REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
	*A-1195-065-A	P4 BOARD, COMPLETE *****					
<CAPACITOR>				<FILTER>			
C1201	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V	C1253	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C1202	1-163-017-00	CERAMIC CHIP 0.0047MF	10% 50V	C1254	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C1203	1-163-105-00	CERAMIC CHIP 33PF	5% 50V	C1255	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C1204	1-163-809-11	CERAMIC CHIP 0.047MF	10% 25V	C1256	1-163-809-11	CERAMIC CHIP 0.047MF	10% 25V
C1205	1-163-141-00	CERAMIC CHIP 0.001MF	5% 50V	<IC>			
C1206	1-163-093-00	CERAMIC CHIP 10PF	5% 50V	IC1201	8-752-352-20	IC CXD2023Q	
C1207	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V	IC1202	8-752-062-80	IC CXA1686M	
C1208	1-163-237-11	CERAMIC CHIP 27PF	5% 50V	IC1203	8-759-112-06	IC UPC78N05H	
C1210	1-163-017-00	CERAMIC CHIP 0.0047MF	10% 50V	IC1204	8-759-112-06	IC UPC78N05H	
C1211	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V	<COIL>			
C1213	1-126-154-11	ELECT 47MF	20% 6.3V	L1201	1-408-423-00	INDUCTOR 150UH	
C1214	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	L1202	1-414-042-21	INDUCTOR 18UH	
C1215	1-126-154-11	ELECT 47MF	20% 6.3V	L1205	1-414-042-21	INDUCTOR 18UH	
C1216	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	<CONNECTOR>			
C1217	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	P4-32	*1-564-522-11	PLUG, CONNECTOR 7P	
C1218	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	<TRANSISTOR>			
C1219	1-164-232-11	CERAMIC CHIP 0.01MF	10% 25V	Q1202	8-729-422-27	TRANSISTOR 2SD601A-Q	
C1220	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	Q1203	8-729-216-22	TRANSISTOR 2SA1162-G	
C1221	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	Q1204	8-729-422-27	TRANSISTOR 2SD601A-Q	
C1222	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	Q1205	8-729-422-27	TRANSISTOR 2SD601A-Q	
C1223	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	Q1206	8-729-422-27	TRANSISTOR 2SD601A-Q	
C1224	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	Q1207	8-729-216-22	TRANSISTOR 2SA1162-G	
C1225	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	Q1208	8-729-422-27	TRANSISTOR 2SD601A-Q	
C1226	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	Q1209	8-729-422-27	TRANSISTOR 2SD601A-Q	
C1227	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	Q1211	8-729-216-22	TRANSISTOR 2SA1162-G	
C1228	1-126-154-11	ELECT 47MF	20% 6.3V	Q1212	8-729-422-27	TRANSISTOR 2SD601A-Q	
C1229	1-126-157-11	ELECT 10MF	20% 6.3V	Q1213	8-729-422-27	TRANSISTOR 2SD601A-Q	
C1230	1-126-157-11	ELECT 10MF	20% 6.3V	Q1214	8-729-216-22	TRANSISTOR 2SA1162-G	
C1231	1-126-157-11	ELECT 10MF	20% 6.3V	Q1215	8-729-422-27	TRANSISTOR 2SD601A-Q	
C1232	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	Q1218	8-729-216-22	TRANSISTOR 2SA1162-G	
C1233	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	Q1220	8-729-901-01	TRANSISTOR DTC144EK	
C1234	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	<RESISTOR>			
C1235	1-124-257-00	ELECT 2.2MF	20% 50V	R1201	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
C1237	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	R1202	1-216-001-00	METAL GLAZE 10 5% 1/10W	
C1238	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	R1203	1-216-025-00	METAL GLAZE 100 5% 1/10W	
C1239	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	R1204	1-216-630-11	METAL CHIP 130 0.50% 1/10W	
C1240	1-163-809-11	CERAMIC CHIP 0.047MF	10% 25V	R1205	1-216-639-11	METAL CHIP 330 0.50% 1/10W	
C1241	1-163-809-11	CERAMIC CHIP 0.047MF	10% 25V				
C1242	1-163-009-11	CERAMIC CHIP 0.001MF	10% 50V				
C1243	1-126-177-11	ELECT 100MF	20% 6.3V				
C1245	1-126-157-11	ELECT 10MF	20% 6.3V				
C1246	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V				
C1249	1-126-157-11	ELECT 10MF	20% 6.3V				
C1250	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V				
C1251	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V				
C1252	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V				


P4

P3

REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
R1206	1-216-620-11	METAL CHIP	51 0.50% 1/10W	R1284	1-216-025-00	METAL GLAZE	100 5% 1/10W
R1207	1-216-025-00	METAL GLAZE	100 5% 1/10W			<CRYSTAL>	
R1208	1-216-025-00	METAL GLAZE	100 5% 1/10W	X1201	1-577-611-11	OSCILLATOR, CERAMIC	
R1209	1-216-635-11	METAL CHIP	220 0.50% 1/10W	X1202	1-567-878-11	VIBRATOR, CRYSTAL	
R1210	1-216-049-00	METAL GLAZE	1K 5% 1/10W			*****	
						*A-1195-069-A P3 BOARD, COMPLETE	
						*****	
R1211	1-216-043-00	METAL GLAZE	560 5% 1/10W			<CAPACITOR>	
R1212	1-216-067-00	METAL GLAZE	5.6K 5% 1/10W	C2001	1-124-910-11	ELECT 47MF	20% 50V
R1213	1-216-001-00	METAL GLAZE	10 5% 1/10W	C2002	1-124-910-11	ELECT 47MF	20% 50V
R1214	1-216-049-00	METAL GLAZE	1K 5% 1/10W	C2003	1-124-119-00	ELECT 330MF	20% 16V
R1215	1-216-069-00	METAL GLAZE	6.8K 5% 1/10W	C2004	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V
				C2005	1-124-261-00	ELECT 10MF	20% 50V
R1216	1-216-041-00	METAL GLAZE	470 5% 1/10W				
R1217	1-216-077-00	METAL GLAZE	15K 5% 1/10W	C2006	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V
R1218	1-216-661-11	METAL CHIP	2.7K 0.50% 1/10W	C2007	1-126-157-11	ELECT 10MF	20% 16V
R1219	1-216-657-11	METAL CHIP	1.8K 0.50% 1/10W	C2008	1-163-031-11	CERAMIC CHIP 0.01MF	50V
R1220	1-216-657-11	METAL CHIP	1.8K 0.50% 1/10W	C2009	1-163-157-00	FILM 0.022MF	5% 50V
				C2010	1-164-161-11	CERAMIC CHIP 0.0022MF	50V
R1221	1-216-023-00	METAL GLAZE	82 5% 1/10W				
R1222	1-216-103-00	METAL GLAZE	180K 5% 1/10W	C2011	1-126-157-11	ELECT 10MF	20% 16V
R1223	1-216-089-00	METAL GLAZE	47K 5% 1/10W	C2013	1-126-301-11	ELECT 1MF	20% 50V
R1224	1-216-089-00	METAL GLAZE	47K 5% 1/10W	C2014	1-164-161-11	CERAMIC CHIP 0.0022MF	10% 50V
R1225	1-216-653-11	METAL CHIP	1.2K 0.50% 1/10W	C2015	1-163-117-00	CERAMIC CHIP 100PF	5% 50V
				C2016	1-163-109-00	CERAMIC CHIP 47PF	5% 50V
R1226	1-216-666-11	METAL CHIP	4.3K 0.50% 1/10W				
R1228	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W	C2017	1-163-109-00	CERAMIC CHIP 47PF	5% 50V
R1229	1-216-043-00	METAL GLAZE	560 5% 1/10W	C2018	1-124-465-00	ELECT 0.47MF	20% 50V
R1230	1-216-075-00	METAL GLAZE	12K 5% 1/10W	C2019	1-126-103-11	ELECT 470MF	20% 16V
R1231	1-216-073-00	METAL GLAZE	10K 5% 1/10W	C2020	1-163-031-11	CERAMIC CHIP 0.01MF	50V
				C2021	1-126-157-11	ELECT 10MF	20% 16V
R1232	1-216-689-11	METAL GLAZE	39K 5% 1/10W				
R1233	1-216-077-00	METAL GLAZE	15K 5% 1/10W	C2022	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V
R1234	1-216-035-00	METAL GLAZE	270 5% 1/10W	C2023	1-163-119-00	CERAMIC CHIP 120PF	5% 50V
R1235	1-216-037-00	METAL GLAZE	330 5% 1/10W	C2024	1-124-465-00	ELECT 0.47MF	20% 50V
R1238	1-216-073-00	METAL GLAZE	10K 5% 1/10W	C2025	1-126-157-11	ELECT 10MF	20% 16V
				C2026	1-163-101-00	CERAMIC CHIP 22PF	5% 50V
R1239	1-216-073-00	METAL GLAZE	10K 5% 1/10W				
R1241	1-216-035-00	METAL GLAZE	270 5% 1/10W	C2027	1-163-103-00	CERAMIC CHIP 27PF	5% 50V
R1242	1-216-043-00	METAL GLAZE	560 5% 1/10W	C2028	1-163-107-00	CERAMIC CHIP 39PF	5% 50V
R1243	1-216-689-11	METAL GLAZE	39K 5% 1/10W	C2029	1-124-477-11	ELECT 47MF	20% 16V
R1244	1-216-025-00	METAL GLAZE	100 5% 1/10W	C2031	1-124-910-11	ELECT 47MF	20% 50V
				C2032	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V
R1245	1-216-001-00	METAL GLAZE	10 5% 1/10W				
R1246	1-216-077-00	METAL GLAZE	15K 5% 1/10W	C2034	1-126-157-11	ELECT 10MF	20% 16V
R1247	1-216-089-00	METAL GLAZE	47K 5% 1/10W	C2035	1-126-157-11	ELECT 10MF	20% 16V
R1248	1-216-635-11	METAL CHIP	220 0.50% 1/10W	C2036	1-163-025-11	CERAMIC CHIP 0.001MF	50V
R1249	1-216-025-00	METAL GLAZE	100 5% 1/10W	C2037	1-124-477-11	ELECT 47MF	20% 16V
				C2038	1-164-161-11	CERAMIC CHIP 0.0022MF	10% 50V
R1250	1-216-043-00	METAL GLAZE	560 5% 1/10W				
R1251	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W	C2039	1-124-477-11	ELECT 47MF	20% 16V
R1252	1-216-295-00	METAL GLAZE	0 5% 1/10W	C2040	1-124-903-11	ELECT 1MF	20% 50V
R1253	1-216-067-00	METAL GLAZE	5.6K 5% 1/10W	C2041	1-130-475-00	MYLAR 0.0022MF	5% 50V
R1254	1-216-035-00	METAL GLAZE	270 5% 1/10W	C2042	1-124-902-00	ELECT 0.47MF	20% 50V
				C2043	1-136-161-00	FILM 0.047MF	5% 50V
R1255	1-216-639-11	METAL CHIP	330 0.50% 1/10W				
R1256	1-216-035-00	METAL GLAZE	270 5% 1/10W	C2044	1-163-031-11	CERAMIC CHIP 0.01MF	50V
R1257	1-216-645-11	METAL CHIP	560 0.50% 1/10W	C2045	1-126-157-11	ELECT 10MF	20% 16V
R1258	1-216-073-00	METAL GLAZE	10K 5% 1/10W	C2046	1-136-169-00	FILM 0.22MF	5% 50V
R1259	1-216-644-11	METAL CHIP	510 0.50% 1/10W	C2047	1-124-463-00	ELECT 0.1MF	20% 50V
				C2048	1-163-031-11	CERAMIC CHIP 0.01MF	50V
R1260	1-216-075-00	METAL GLAZE	12K 5% 1/10W				
R1261	1-216-025-00	METAL GLAZE	100 5% 1/10W	C2049	1-136-165-00	FILM 0.1MF	5% 50V
R1262	1-216-049-00	METAL GLAZE	1K 5% 1/10W	C2050	1-124-902-00	ELECT 0.47MF	20% 50V
R1263	1-216-025-00	METAL GLAZE	100 5% 1/10W	C2051	1-126-157-11	ELECT 10MF	20% 16V
R1264	1-216-025-00	METAL GLAZE	100 5% 1/10W	C2052	1-163-129-00	CERAMIC CHIP 330PF	5% 50V
				C2053	1-163-093-00	CERAMIC CHIP 10PF	5% 50V
R1265	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W				
R1266	1-216-001-00	METAL GLAZE	10 5% 1/10W				
R1267	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W				
R1268	1-216-089-00	METAL GLAZE	47K 5% 1/10W				
R1269	1-216-049-00	METAL GLAZE	1K 5% 1/10W				
R1270	1-216-295-00	METAL GLAZE	0 5% 1/10W				
R1273	1-216-049-00	METAL GLAZE	1K 5% 1/10W				
R1274	1-216-295-00	METAL GLAZE	0 5% 1/10W				
R1276	1-216-295-00	METAL GLAZE	0 5% 1/10W				

**P<sub>3</sub>**

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REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
C2054	1-163-093-00	CERAMIC CHIP 10PF	5%	50V	P3-39	*1-564-521-11	PLUG, CONNECTOR 6P
C2055	1-163-117-00	CERAMIC CHIP 100PF	5%	50V	P3-40	*1-564-519-11	PLUG, CONNECTOR 4P
C2056	1-136-161-00	FILM 0.047MF	5%	50V	P3-41	*1-564-519-11	PLUG, CONNECTOR 4P
C2057	1-124-477-11	ELECT 47MF	20%	16V			
C2058	1-163-031-11	CERAMIC CHIP 0.01MF		50V			
C2059	1-136-177-00	FILM 1MF	5%	50V			
C2060	1-136-153-00	FILM 0.01MF	5%	50V			
C2061	1-163-031-11	CERAMIC CHIP 0.01MF		50V			
C2062	1-163-095-00	CERAMIC CHIP 12PF	5%	50V			
C2063	1-163-101-00	CERAMIC CHIP 22PF	5%	50V			
C2064	1-164-161-11	CERAMIC CHIP 0.0022MF	10%	50V			
C2065	1-126-320-11	ELECT 10MF	20%	16V			
C2066	1-126-157-11	ELECT 10MF	20%	16V			
C2067	1-126-157-11	ELECT 10MF	20%	16V			
C2068	1-124-916-11	ELECT 22MF	20%	50V			
C2070	1-163-253-11	CERAMIC CHIP 120PF	5%	50V			
C2073	1-124-477-11	ELECT 47MF	20%	16V			
C2075	1-163-117-00	CERAMIC CHIP 100PF	5%	50V			
<COMPOSITION CIRCUIT BLOCK>							
CP2001	1-236-472-11	NETWORK, RES, THICK FILM					
<TRIMMER>							
CV2001	1-141-245-00	CAP, TRIMMER					
<DIODE>							
D2003	8-719-106-16	DIODE RD6.8M-B1					
D2004	8-719-404-46	DIODE MA110					
D2005	8-719-404-46	DIODE MA110					
D2006	8-719-105-45	DIODE RD3.3M-B1					
D2007	8-719-911-19	DIODE 1SS119					
<FILTER>							
FL2001	1-235-941-11	YC MODULE					
<IC>							
IC2001	8-759-231-58	IC TA7812S					
IC2002	8-759-700-48	IC NJM2903S					
IC2003	8-759-805-37	IC L78LRO5D-MA					
IC2004	8-759-066-51	IC MB88733-143					
IC2005	8-759-803-25	IC CXK1006L					
IC2006	8-752-006-12	IC CX20061					
IC2007	8-752-033-32	IC CXA1228S					
<CONNECTOR>							
J2001	*1-573-962-11	CONNECTOR (MALE) 50P					
<COIL>							
L2002	1-410-663-31	INDUCTOR 10UH					
L2003	1-410-667-31	INDUCTOR 22UH					
L2004	1-410-663-31	INDUCTOR 10UH					
L2009	1-410-663-31	INDUCTOR 10UH					
L2010	1-410-677-31	INDUCTOR 180UH					
L2011	1-410-677-31	INDUCTOR 180UH					
<CONNECTOR>							



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specified.

REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
*****				C504	1-136-153-00	FILM	0.01MF 5% 50V
*A-1297-104-A	A BOARD, COMPLETE (KP-53XBR25(U/C))	*****		C507	1-106-383-00	MYLAR	0.047MF 5% 200V
*A-1297-105-A	A BOARD, COMPLETE (KP-46XBR25/61XBR28)	*****		C508	1-102-973-00	CERAMIC	100PF 5% 50V
4-382-854-11	SCREW (M3X10), P, SW (+)			C509	1-102-030-00	CERAMIC	330PF 10% 500V
<CONNECTOR>				C510	$\Delta$ 1-136-565-11	FILM	0.015MF 3% 1.4KV
A-1	*1-564-514-11	PLUG, CONNECTOR 11P		C512	$\Delta$ 1-136-598-11	FILM	3MF 5% 200V
A-2	*1-564-512-11	PLUG, CONNECTOR 9P		C513	1-136-153-00	FILM	0.01MF 5% 50V
A-3	*1-564-507-11	PLUG, CONNECTOR 4P		C514	1-124-477-11	ELECT	47MF 20% 16V
A-4	*1-564-508-11	PLUG, CONNECTOR 5P		C522	1-123-024-21	ELECT	33MF 160V
A-5	*1-564-511-51	PLUG, CONNECTOR 8P		C523	1-106-383-00	MYLAR	0.047MF 200V
A-6	*1-564-507-11	PLUG, CONNECTOR 4P		C528	1-124-662-11	ELECT	220MF 20% 50V
A-7	*1-564-505-11	PLUG, CONNECTOR 2P		C534	1-124-011-00	ELECT	220MF 20% 16V
A-9	*1-564-505-11	PLUG, CONNECTOR 2P		C535	1-124-011-00	ELECT	220MF 20% 16V
A-10	*1-564-511-71	PLUG, CONNECTOR 8P		C536	1-124-662-11	ELECT	220MF 20% 50V
A-11	*1-564-511-81	PLUG, CONNECTOR 8P		C537	1-124-662-11	ELECT	220MF 20% 50V
A-12	1-573-297-11	CONNECTOR, BOARD TO BOARD 18P		C539	1-124-907-11	ELECT	10MF 20% 50V
A-13	1-573-297-11	CONNECTOR, BOARD TO BOARD 18P		C542	1-136-153-00	FILM	0.01MF 5% 50V
A-14	*1-564-513-11	PLUG, CONNECTOR 10P		C543	1-136-153-00	FILM	0.01MF 5% 50V
A-15	*1-564-508-11	PLUG, CONNECTOR 5P		C544	1-136-153-00	FILM	0.01MF 5% 50V
A-16	*1-564-508-11	PLUG, CONNECTOR 5P		C545	1-136-153-00	FILM	0.01MF 5% 50V
A-17	*1-564-508-11	PLUG, CONNECTOR 5P		C569	1-126-355-11	ELECT	33MF 20% 160V
A-18	*1-691-291-11	PIN, CONNECTOR (PC BOARD) 5P		C1401	1-124-910-11	ELECT	47MF 20% 50V
A-19	*1-691-291-11	PIN, CONNECTOR (PC BOARD) 5P		C1402	1-126-157-11	ELECT	10MF 20% 16V
A-20	*1-691-291-11	PIN, CONNECTOR (PC BOARD) 5P		C1405	1-124-910-11	ELECT	47MF 20% 50V
A-21	*1-508-786-00	PIN, CONNECTOR (5MM PITCH) 2P		C1406	1-126-101-11	ELECT	100MF 20% 16V
A-22	1-573-297-11	CONNECTOR, BOARD TO BOARD 18P		C1407	1-126-057-11	ELECT	2200MF 20% 50V
A-25	*1-564-506-11	PLUG, CONNECTOR 3P		C1408	1-136-165-00	FILM	0.1MF 5% 50V
A-27	*1-573-979-11	CONNECTOR, BOARD TO BOARD 11P		C1409	1-136-165-00	FILM	0.1MF 5% 50V
A-28	*1-564-508-11	PLUG, CONNECTOR 5P		C1413	1-124-234-00	ELECT	22MF 20% 16V
A-31	*1-573-960-11	CONNECTOR (FEMALE) 50P		C1424	1-126-057-11	ELECT	2200MF 20% 50V
A-38	*1-564-505-11	PLUG, CONNECTOR 2P		C1425	1-126-057-11	ELECT	2200MF 20% 50V
A-56	*1-564-508-11	PLUG, CONNECTOR 5P		C1426	1-126-157-11	ELECT	10MF 20% 16V
<CAPACITOR>				C1429	1-126-101-11	ELECT	100MF 20% 16V
C201	1-124-910-11	ELECT	47MF 20% 50V	C1430	1-126-101-11	ELECT	100MF 20% 16V
C202	1-124-903-11	ELECT	1MF 20% 50V	C1431	1-124-916-11	ELECT	22MF 20% 50V
C203	1-130-495-00	MYLAR	0.1MF 5% 50V	C1435	1-124-916-11	ELECT	22MF 20% 25V
C204	1-124-477-11	ELECT	47MF 20% 16V	C1440	1-126-336-11	ELECT	220MF 20% 25V
C205	1-124-557-11	ELECT	1000MF 20% 25V	C1601	1-130-483-00	MYLAR	0.01MF 5% 50V
C206	1-126-101-11	ELECT	100MF 20% 16V	C1603	1-136-153-00	FILM	0.01MF 5% 50V
C207	1-124-242-00	ELECT	33MF 20% 16V	C1607	1-124-907-11	ELECT	10MF 20% 50V
C210	1-102-121-00	CERAMIC	0.0022MF 10% 50V	C1608	1-136-153-00	FILM	0.01MF 5% 50V
C212	1-126-803-11	ELECT	47MF 20% 16V	C1609	1-136-153-00	FILM	0.01MF 5% 50V
C213	1-126-103-11	ELECT	470MF 20% 16V	C1610	1-124-916-11	ELECT	22MF 20% 50V
C214	1-126-101-11	ELECT	100MF 20% 16V	<DIODE>			
C215	1-126-803-11	ELECT	47MF 20% 50V	D201	8-719-110-13	DIODE RD9.1ESB2	
C216	1-126-101-11	ELECT	100MF 20% 16V	D202	8-719-110-13	DIODE RD9.1ESB2	
C217	1-126-803-11	ELECT	47MF 20% 25V	D203	8-719-911-19	DIODE 1SS119	
C218	1-126-103-11	ELECT	470MF 20% 16V	D204	8-719-911-19	DIODE 1SS119	
C219	1-124-443-00	ELECT	100MF 20% 10V	D205	8-719-110-36	DIODE RD13ESB2	
C220	1-126-803-11	ELECT	47MF 20% 25V	D206	8-719-911-19	DIODE 1SS119	
C223	1-126-803-11	ELECT	47MF 20% 25V	D207	8-719-911-19	DIODE 1SS119	
C224	1-124-261-00	ELECT	10MF 20% 50V	D208	8-719-911-19	DIODE 1SS119	
C225	1-124-120-11	ELECT	220MF 20% 16V	D209	8-719-911-19	DIODE 1SS119	
C226	1-124-120-11	ELECT	220MF 20% 16V	D211	8-719-110-36	DIODE RD13ESB2	
C227	1-124-621-11	ELECT	3300MF 20% 6.3V	D213	8-719-110-78	DIODE RD33ESB2	
C299	1-126-101-11	ELECT	100MF 20% 16V	D214	8-719-911-19	DIODE 1SS119	
C502	1-126-182-11	ELECT	0.47MF 20% 50V	D215	8-719-911-19	DIODE 1SS119	
C503	1-130-487-00	MYLAR	0.022MF 5% 50V	D216	8-719-911-19	DIODE 1SS119	
				D217	8-719-911-19	DIODE 1SS119	
				D219	8-719-911-19	DIODE 1SS119	
				D220	8-719-510-48	DIODE DIN20R	



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KP-46XBR25/53XBR25/61XBR28  
RM-Y114A

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REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
D221	8-719-911-19	DIODE 1SS119		Q203	8-729-119-76	TRANSISTOR 2S1175-HFE	
D222	8-719-911-19	DIODE 1SS119		Q501	8-729-119-80	TRANSISTOR 2SC2688-LK	
D223	8-719-911-19	DIODE 1SS119		Q502	8-729-014-88	TRANSISTOR 2SC4891-CA	
D501	8-719-971-20	DIODE ERC38-06		Q504	8-729-119-78	TRANSISTOR 2SC2785-HFE	
D502	8-719-971-20	DIODE ERC38-06		Q505	8-729-201-32	TRANSISTOR 2SA1013-0	
D503	8-719-300-80	DIODE RU-1C		Q506	8-729-201-32	TRANSISTOR 2SA1013-0	
D504	8-719-109-88	DIODE RD5.6ESB1	(KP-46XBR25/61XBR28)	Q507	8-729-304-92	TRANSISTOR 2SB649A-C	
D505	8-719-900-63	DIODE V09G	(KP-46XBR25/61XBR28)	Q508	8-729-204-16	TRANSISTOR 2SA1301-0	
D506	8-719-900-63	DIODE V09G		Q509	8-729-119-78	TRANSISTOR 2SC2785-HFE	
D507	8-719-970-89	DIODE DD50R		Q510	8-729-119-78	TRANSISTOR 2SC2785-HFE	
D509	8-719-911-19	DIODE 1SS119		Q511	8-729-119-76	TRANSISTOR 2S1175-HFE	
D510	8-719-109-71	DIODE RD3.9ESB1		Q512	8-729-119-78	TRANSISTOR 2SC2785-HFE	
D511	8-719-911-19	DIODE 1SS119		Q1401	8-729-119-78	TRANSISTOR 2SC2785-HFE	
D512	8-719-911-19	DIODE 1SS119		Q1402	8-729-900-63	TRANSISTOR DTA124ES	
D513	8-719-911-19	DIODE 1SS119		Q1407	8-729-119-78	TRANSISTOR 2SC2785-HFE	
D514	8-719-911-19	DIODE 1SS119		Q1408	8-729-119-78	TRANSISTOR 2SC2785-HFE	
D515	8-719-911-19	DIODE 1SS119		Q1601	8-729-119-78	TRANSISTOR 2SC2785-HFE	
D1401	8-719-911-19	DIODE 1SS119		Q1602	8-729-119-76	TRANSISTOR 2S1175-HFE	
D1402	8-719-911-19	DIODE 1SS119		Q1603	8-729-119-76	TRANSISTOR 2S1175-HFE	
D1403	8-719-911-19	DIODE 1SS119		Q1604	8-729-119-76	TRANSISTOR 2S1175-HFE	
D1404	8-719-110-88	DIODE RD39ESB2		Q1605	8-729-119-78	TRANSISTOR 2SC2785-HFE	
D1405	8-719-110-88	DIODE RD39ESB2		Q1606	8-729-119-78	TRANSISTOR 2SC2785-HFE	
D1406	8-719-911-19	DIODE 1SS119		Q1620	8-729-119-76	TRANSISTOR 2S1175-HFE	
D1407	8-719-110-88	DIODE RD39ESB2		<RESISTOR>			
D1408	8-719-911-19	DIODE 1SS119		R201	1-249-405-11	CARBON 100 5% 1/4W	F
D1409	8-719-110-88	DIODE RD39ESB2		R202	1-249-405-11	CARBON 100 5% 1/4W	F
D1410	8-719-911-19	DIODE 1SS119		R203	1-249-425-11	CARBON 4.7K 5% 1/4W	
D1607	8-719-911-19	DIODE 1SS119		R204	1-249-441-11	CARBON 100K 5% 1/4W	
D1608	8-719-911-19	DIODE 1SS119		R214	1-249-429-11	CARBON 10K 5% 1/4W	
<IC>				R215	1-249-437-11	CARBON 47K 5% 1/4W	
IC201	8-749-920-58	IC SI-3090CA		R216	1-249-377-11	CARBON 0.47 5% 1/4W	F
IC204	8-759-171-05	IC UPC7805H		R219	1-249-426-11	CARBON 5.6K 5% 1/4W	
IC205	8-759-144-82	IC UPC2405HF		R221	1-249-409-11	CARBON 220 5% 1/4W	
IC206	8-759-231-58	IC TA7812S		R222	1-249-436-11	CARBON 39K 5% 1/4W	
IC207	8-749-920-58	IC SI-3090CA		R223	1-249-434-11	CARBON 27K 5% 1/4W	
IC506	8-752-057-18	IC CXA1315P		R224	1-249-409-11	CARBON 220 5% 1/4W	
IC1401	8-759-246-70	IC TA8216H		R225	1-249-417-11	CARBON 1K 5% 1/4W	
IC1601	8-752-058-71	IC CXA1656S		R229	$\Delta$ 1-215-921-71	METAL OXIDE 4.7K 5% 3W	F
<JACK>				R230	$\Delta$ 1-215-921-71	METAL OXIDE 4.7K 5% 3W	F
J202	1-507-562-00	JACK		R231	1-249-409-11	CARBON 220 5% 1/4W	F
J203	1-507-562-00	JACK		R232	$\Delta$ 1-216-469-71	METAL OXIDE 12 5% 3W	F
<JUMPER DIODE>				R233	1-249-409-11	CARBON 220 5% 1/4W	
JW266	8-719-911-19	DIODE 1SS119		R234	1-249-409-11	CARBON 220 5% 1/4W	
<COIL>				R235	1-249-409-11	CARBON 220 5% 1/4W	
L201	1-408-429-00	INDUCTOR 470UH		R236	1-249-409-11	CARBON 220 5% 1/4W	
L205	1-410-645-31	INDUCTOR 100UH		R237	1-249-409-11	CARBON 220 5% 1/4W	
L206	1-408-416-00	INDUCTOR 39UH		R238	1-249-409-11	CARBON 220 5% 1/4W	
L212	1-410-312-11	INDUCTOR 0.22UH		R239	1-249-409-11	CARBON 220 5% 1/4W	
L501	$\Delta$ 1-460-196-11	COIL, HORIZONTAL LINEARITY		R240	$\Delta$ 1-216-469-71	METAL OXIDE 12 5% 3W	F
L502	1-459-313-00	COIL WITH CORE (HWC)		R241	1-249-401-11	CARBON 47 5% 1/4W	
L515	1-410-645-31	INDUCTOR 100UH		R242	$\Delta$ 1-216-469-71	METAL OXIDE 12 5% 3W	F
<TRANSISTOR>				R243	$\Delta$ 1-217-288-11	WIREWOUND 1.5 10% 5W	F
Q201	8-729-119-78	TRANSISTOR 2SC2785-HFE		R244	$\Delta$ 1-217-296-11	WIREWOUND 6.8 10% 5W	F
Q202	8-729-119-78	TRANSISTOR 2SC2785-HFE		R296	1-249-417-11	CARBON 1K 5% 1/4W	
				R501	1-247-895-00	CARBON 470K 5% 1/4W	
				R502	1-249-377-11	CARBON 0.47 5% 1/4W	F
				R503	1-249-377-11	CARBON 0.47 5% 1/4W	F
				R504	1-249-417-11	CARBON 1K 5% 1/4W	
				R505	1-249-423-11	CARBON 3.3K 5% 1/4W	
				R506	$\Delta$ 1-215-922-91	METAL OXIDE 6.8K 5% 3W	F
				R507	1-249-429-11	CARBON 10K 5% 1/4W	F
				R508	$\Delta$ 1-216-373-91	METAL OXIDE 2.2 5% 2W	F

**A**

**M**

Les composants identifiés par  
 une trame et une marque **△**  
 sont critiques pour la sécurité.  
 Ne les remplacer que par une  
 pièce portant le numéro spécifié.

The components identified by  
 shading and mark **△** are critical  
 for safety.  
 Replace only with part number  
 specified.

REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
R509	△ 1-216-478-91	METAL OXIDE	390 5% 3W F	R1603	1-249-423-11	CARBON	3.3K 5% 1/4W
R511	1-249-407-11	CARBON	150 5% 1/4W	R1604	1-249-405-11	CARBON	100 5% 1/4W
R512	1-249-421-11	CARBON	2.2K 5% 1/4W F	R1605	1-249-405-11	CARBON	100 5% 1/4W
R513	1-249-417-11	CARBON	1K 5% 1/4W	R1606	1-249-405-11	CARBON	100 5% 1/4W
R514	△ 1-216-441-91	METAL OXIDE	27K 5% 1W F	R1607	1-249-415-11	CARBON	680 5% 1/4W
R515	1-249-432-11	CARBON	18K 5% 1/4W F	R1608	1-249-415-11	CARBON	680 5% 1/4W
R516	1-249-417-11	CARBON	1K 5% 1/4W	R1609	1-249-415-11	CARBON	680 5% 1/4W
R517	1-249-427-11	CARBON	6.8K 5% 1/4W F	R1610	1-249-405-11	CARBON	100 5% 1/4W
R518	1-249-422-11	CARBON	2.7K 5% 1/4W F	R1611	1-249-405-11	CARBON	100 5% 1/4W
R519	1-249-417-11	CARBON	1K 5% 1/4W F	R1612	1-249-405-11	CARBON	100 5% 1/4W
R520	△ 1-215-925-91	METAL OXIDE	22K 5% 3W F	R1613	1-249-423-11	CARBON	3.3K 5% 1/4W
R521	△ 1-215-925-91	METAL OXIDE	22K 5% 3W F	R1614	1-249-411-11	CARBON	330 5% 1/4W
R522	1-249-421-11	CARBON	2.2K 5% 1/4W	R1622	1-249-423-11	CARBON	3.3K 5% 1/4W
R523	1-249-434-11	CARBON	27K 5% 1/4W	R1624	1-249-424-11	CARBON	3.9K 5% 1/4W
R524	1-249-434-11	CARBON	27K 5% 1/4W	R1627	1-249-429-11	CARBON	10K 5% 1/4W
R525	△ 1-215-922-91	METAL OXIDE	6.8K 5% 3W F	R1630	1-249-434-11	CARBON	27K 5% 1/4W
R526	1-249-417-11	CARBON	1K 5% 1/4W	R1631	1-249-433-11	CARBON	22K 5% 1/4W
R528	△ 1-216-447-91	METAL OXIDE	27 5% 2W F	R1656	1-249-397-11	CARBON	22 5% 1/4W
R529	△ 1-216-447-91	METAL OXIDE	27 5% 2W F	R1657	1-249-397-11	CARBON	22 5% 1/4W
R530	1-249-431-11	CARBON	15K 5% 1/4W	R1658	1-249-397-11	CARBON	22 5% 1/4W
R531	1-249-431-11	CARBON	15K 5% 1/4W	<TRANSFORMER>			
R532	1-249-385-11	CARBON	2.2 5% 1/4W F	T501	△ 1-439-545-11	TRANSFORMER, FERRITE	
R533	1-249-405-11	CARBON	100 5% 1/4W	T502	△ 1-437-078-11	TRANSFORMER, HORIZONTAL DRIVE	
R534	1-249-405-11	CARBON	100 5% 1/4W	<TUNER>			
R535	1-249-405-11	CARBON	100 5% 1/4W	TU101	△ 1-693-102-22	TUNER (BTF-XA401)	
R536	△ 1-217-316-11	WIREWOUND	330 10% 5W F	*****			
R537	△ 1-217-316-11	WIREWOUND	330 10% 5W F	*A-1306-435-A M BOARD, COMPLETE			
R550	1-249-385-11	CARBON	2.2 5% 1/4W F	*****			
R558	1-249-385-11	CARBON	2.2 5% 1/4W F	<CAPACITOR>			
R559	1-249-409-11	CARBON	220 5% 1/4W	C001	1-124-261-00	ELECT	10MF 20% 50V
R560	1-249-409-11	CARBON	220 5% 1/4W	C002	1-163-125-00	CERAMIC CHIP	220PF 5% 50V
R563	1-249-429-11	CARBON	10K 5% 1/4W	C003	1-136-161-00	FILM	0.047MF 5% 50V
R564	1-249-429-11	CARBON	10K 5% 1/4W	C004	1-126-301-11	ELECT	1MF 20% 50V
R565	1-249-427-11	CARBON	6.8K 5% 1/4W	C005	1-163-125-00	CERAMIC CHIP	220PF 5% 50V
R566	1-249-427-11	CARBON	6.8K 5% 1/4W	C014	1-124-910-11	ELECT	47MF 20% 50V
R567	1-249-427-11	CARBON	6.8K 5% 1/4W	C015	1-124-464-11	ELECT	0.22MF 20% 50V
R568	1-249-427-11	CARBON	6.8K 5% 1/4W	C017	1-124-589-11	ELECT	47MF 20% 16V
R569	1-249-426-11	CARBON	5.6K 5% 1/4W	C018	1-163-141-00	CERAMIC CHIP	0.001MF 5% 50V
R570	1-249-441-11	CARBON	100K 5% 1/4W	C019	1-164-695-11	CERAMIC CHIP	0.0022MF 5% 50V
R571	1-249-429-11	CARBON	10K 5% 1/4W	C020	1-163-241-11	CERAMIC CHIP	39PF 5% 50V
R572	1-249-429-11	CARBON	10K 5% 1/4W	C021	1-163-239-11	CERAMIC CHIP	33PF 5% 50V
R574	1-249-417-11	CARBON	1K 5% 1/4W	C029	1-163-115-00	CERAMIC CHIP	82PF 5% 50V
R579	1-249-417-11	CARBON	1K 5% 1/4W	C030	1-163-115-00	CERAMIC CHIP	82PF 5% 50V
R1401	1-215-445-00	METAL	10K 1% 1/4W	C034	1-163-125-00	CERAMIC CHIP	220PF 5% 50V
R1402	1-215-445-00	METAL	10K 1% 1/4W	C035	1-163-125-00	CERAMIC CHIP	220PF 5% 50V
R1403	1-215-445-00	METAL	10K 1% 1/4W	C036	1-163-125-00	CERAMIC CHIP	220PF 5% 50V
R1404	1-215-445-00	METAL	10K 1% 1/4W	C041	1-163-117-00	CERAMIC CHIP	100PF 5% 50V
R1405	1-249-385-11	CARBON	2.2 5% 1/4W	C042	1-163-117-00	CERAMIC CHIP	100PF 5% 50V
R1406	1-249-385-11	CARBON	2.2 5% 1/4W	C045	1-163-125-00	CERAMIC CHIP	220PF 5% 50V
R1409	1-249-433-11	CARBON	22K 5% 1/4W	C047	1-124-261-00	ELECT	10MF 20% 50V
R1410	1-249-433-11	CARBON	22K 5% 1/4W	C048	1-124-261-00	ELECT	10MF 20% 50V
R1411	1-249-437-11	CARBON	47K 5% 1/4W	C049	1-124-261-00	ELECT	10MF 20% 50V
R1427	△ 1-215-865-91	METAL OXIDE	220 5% 1W F	C055	1-163-809-11	CERAMIC CHIP	0.047MF 10% 25V
R1428	△ 1-215-865-91	METAL OXIDE	220 5% 1W F	C064	1-163-121-00	CERAMIC CHIP	150PF 5% 50V
R1431	1-249-405-11	CARBON	100 5% 1/4W	C065	1-124-257-00	ELECT	2.2MF 20% 50V
R1433	1-249-425-11	CARBON	4.7K 5% 1/4W				
R1434	1-249-423-11	CARBON	3.3K 5% 1/4W				
R1439	1-247-883-00	CARBON	150K 5% 1/4W				
R1440	1-249-417-11	CARBON	1K 5% 1/4W				
R1442	1-249-398-11	CARBON	27 5% 1/4W				
R1443	1-249-398-11	CARBON	27 5% 1/4W				
R1520	1-249-429-11	CARBON	10K 5% 1/4W				
R1601	1-249-423-11	CARBON	3.3K 5% 1/4W				
R1602	1-249-417-11	CARBON	1K 5% 1/4W				



REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
<DIODE>				R014	1-216-057-00	METAL GLAZE 2.2K 5%	1/10W
D001	8-719-404-46	DIODE MA110		R015	1-216-089-00	METAL GLAZE 47K 5%	1/10W
D002	8-719-404-46	DIODE MA110		R016	1-216-067-00	METAL GLAZE 5.6K 5%	1/10W
D003	8-719-404-46	DIODE MA110		R017	1-216-067-00	METAL GLAZE 5.6K 5%	1/10W
D004	8-719-404-46	DIODE MA110		R018	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
D005	8-719-404-46	DIODE MA110		R019	1-216-073-00	METAL GLAZE 10K 5%	1/10W
D006	8-719-404-46	DIODE MA110		R020	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
D007	8-719-404-46	DIODE MA110		R021	1-216-097-00	METAL GLAZE 100K 5%	1/10W
D008	8-719-404-46	DIODE MA110		R022	1-216-089-00	METAL GLAZE 47K 5%	1/10W
D009	8-719-404-46	DIODE MA110		R023	1-216-093-00	METAL GLAZE 68K 5%	1/10W
D010	8-713-300-57	DIODE 1T33		R024	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
D011	8-719-404-46	DIODE MA110		R025	1-216-073-00	METAL GLAZE 10K 5%	1/10W
D012	8-719-404-46	DIODE MA110		R026	1-216-081-00	METAL GLAZE 22K 5%	1/10W
D014	8-719-404-46	DIODE MA110		R027	1-216-041-00	METAL GLAZE 470 5%	1/10W
D015	8-719-404-46	DIODE MA110		R028	1-216-023-00	METAL GLAZE 82 5%	1/10W
<IC>				R029	1-216-097-00	METAL GLAZE 100K 5%	1/10W
IC001	8-759-169-06	IC TMC73C247-10		R030	1-216-097-00	METAL GLAZE 100K 5%	1/10W
IC002	8-759-403-44	IC MN1280-S		R031	1-216-089-00	METAL GLAZE 47K 5%	1/10W
<COIL>				R032	1-216-089-00	METAL GLAZE 47K 5%	1/10W
L001	1-408-409-00	INDUCTOR 10UH		R033	1-216-073-00	METAL GLAZE 10K 5%	1/10W
L002	1-410-476-11	INDUCTOR 33UH		R034	1-216-033-00	METAL GLAZE 220 5%	1/10W
<CONNECTOR>				R035	1-216-033-00	METAL GLAZE 220 5%	1/10W
M-39	*1-564-521-11	PLUG, CONNECTOR 6P		R036	1-216-033-00	METAL GLAZE 220 5%	1/10W
M-45	*1-564-523-11	PLUG, CONNECTOR 8P		R037	1-216-073-00	METAL GLAZE 10K 5%	1/10W
M-001	1-573-965-21	PIN, CONNECTOR (PC BOARD) 50P		R038	1-216-033-00	METAL GLAZE 220 5%	1/10W
<TRANSISTOR>				R039	1-216-073-00	METAL GLAZE 10K 5%	1/10W
Q001	8-729-216-22	TRANSISTOR 2SA1162-G		R040	1-216-089-00	METAL GLAZE 47K 5%	1/10W
Q002	8-729-216-22	TRANSISTOR 2SA1162-G		R041	1-216-057-00	METAL GLAZE 2.2K 5%	1/10W
Q003	8-729-216-22	TRANSISTOR 2SA1162-G		R042	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
Q004	8-729-422-27	TRANSISTOR 2SD601A-Q		R043	1-216-033-00	METAL GLAZE 220 5%	1/10W
Q005	8-729-422-27	TRANSISTOR 2SD601A-Q		R044	1-216-033-00	METAL GLAZE 220 5%	1/10W
Q006	8-729-216-22	TRANSISTOR 2SA1162-G		R045	1-216-025-00	METAL GLAZE 100 5%	1/10W
Q007	8-729-216-22	TRANSISTOR 2SA1162-G		R046	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
Q008	8-729-422-27	TRANSISTOR 2SD601A-Q		R047	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
Q009	8-729-422-27	TRANSISTOR 2SD601A-Q		R048	1-216-033-00	METAL GLAZE 220 5%	1/10W
Q010	8-729-422-27	TRANSISTOR 2SD601A-Q		R049	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
Q011	8-729-422-27	TRANSISTOR 2SD601A-Q		R050	1-216-295-00	METAL GLAZE 0 5%	1/10W
Q012	8-729-422-27	TRANSISTOR 2SD601A-Q		R051	1-216-033-00	METAL GLAZE 220 5%	1/10W
Q013	8-729-216-22	TRANSISTOR 2SA1162-G		R052	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
Q014	8-729-422-27	TRANSISTOR 2SD601A-Q		R053	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
<RESISTOR>				R054	1-216-073-00	METAL GLAZE 10K 5%	1/10W
R001	1-216-045-00	METAL GLAZE 680 5%	1/10W	R055	1-216-073-00	METAL GLAZE 10K 5%	1/10W
R002	1-216-097-00	METAL GLAZE 100K 5%	1/10W	R056	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
R003	1-216-121-00	METAL GLAZE 1M 5%	1/10W	R057	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
R004	1-216-073-00	METAL GLAZE 10K 5%	1/10W	R058	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
R005	1-216-073-00	METAL GLAZE 10K 5%	1/10W	R059	1-216-073-00	METAL GLAZE 10K 5%	1/10W
R006	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W	R060	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
R007	1-216-027-00	METAL GLAZE 120 5%	1/10W	R063	1-216-033-00	METAL GLAZE 220 5%	1/10W
R008	1-216-041-00	METAL GLAZE 470 5%	1/10W	R064	1-216-053-00	METAL GLAZE 1.5K 5%	1/10W
R009	1-216-027-00	METAL GLAZE 120 5%	1/10W	R065	1-216-033-00	METAL GLAZE 220 5%	1/10W
R011	1-216-033-00	METAL GLAZE 220 5%	1/10W	R066	1-216-033-00	METAL GLAZE 220 5%	1/10W
R012	1-216-033-00	METAL GLAZE 220 5%	1/10W	R067	1-216-033-00	METAL GLAZE 220 5%	1/10W
R013	1-216-067-00	METAL GLAZE 5.6K 5%	1/10W	R068	1-216-033-00	METAL GLAZE 220 5%	1/10W
				R069	1-216-049-00	METAL GLAZE 1K 5%	1/10W
				R070	1-216-033-00	METAL GLAZE 220 5%	1/10W
				R071	1-216-033-00	METAL GLAZE 220 5%	1/10W
				R072	1-216-033-00	METAL GLAZE 220 5%	1/10W
				R073	1-216-057-00	METAL GLAZE 2.2K 5%	1/10W
				R074	1-216-033-00	METAL GLAZE 220 5%	1/10W
				R075	1-216-033-00	METAL GLAZE 220 5%	1/10W
				R076	1-216-089-00	METAL GLAZE 47K 5%	1/10W
				R077	1-216-057-00	METAL GLAZE 2.2K 5%	1/10W
				R078	1-216-033-00	METAL GLAZE 220 5%	1/10W

M

E<sub>1</sub>

REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
R079	1-216-025-00	METAL GLAZE 100 5%	1/10W	C336	1-126-301-11	ELECT 1MF	20% 50V
R080	1-216-061-00	METAL GLAZE 3.3K 5%	1/10W	C337	1-126-301-11	ELECT 1MF	20% 50V
R081	1-216-033-00	METAL GLAZE 220 5%	1/10W	C338	1-124-584-00	ELECT 100MF	20% 10V
R082	1-216-033-00	METAL GLAZE 220 5%	1/10W	C339	1-124-791-11	ELECT 1MF	20% 50V
R083	1-216-033-00	METAL GLAZE 220 5%	1/10W				
R084	1-216-097-00	METAL GLAZE 100K 5%	1/10W	C340	1-163-009-11	CERAMIC CHIP 0.001MF	10% 50V
R085	1-216-033-00	METAL GLAZE 220 5%	1/10W	C341	1-126-157-11	ELECT 10MF	20% 16V
R086	1-216-033-00	METAL GLAZE 220 5%	1/10W	C342	1-124-465-00	ELECT 0.47MF	20% 50V
R087	1-216-033-00	METAL GLAZE 220 5%	1/10W	C343	1-124-589-11	ELECT 47MF	20% 16V
R088	1-216-033-00	METAL GLAZE 220 5%	1/10W	C344	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V
R089	1-216-089-00	METAL GLAZE 47K 5%	1/10W	C345	1-124-767-00	ELECT 2.2MF	20% 50V
R090	1-216-033-00	METAL GLAZE 220 5%	1/10W	C346	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V
R091	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W	C347	1-136-169-00	FILM 0.22MF	5% 50V
R092	1-216-077-00	METAL GLAZE 15K 5%	1/10W	C348	1-163-117-00	CERAMIC CHIP 100PF	5% 50V
R093	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W	C349	1-126-301-11	ELECT 1MF	20% 50V
R094	1-216-033-00	METAL GLAZE 220 5%	1/10W	C350	1-126-301-11	ELECT 1MF	20% 50V
R095	1-216-073-00	METAL GLAZE 10K 5%	1/10W	C351	1-163-002-11	CERAMIC CHIP 270PF	10% 50V
R096	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W	C352	1-164-489-11	CERAMIC CHIP 0.22MF	10% 16V
R097	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W	C353	1-126-163-11	ELECT 4.7MF	20% 50V
R098	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W	C354	1-136-169-00	FILM 0.22MF	5% 50V
R099	1-216-089-00	METAL GLAZE 47K 5%	1/10W	C355	1-124-465-00	ELECT 0.47MF	20% 50V
R100	1-216-025-00	METAL GLAZE 100 5%	1/10W	C356	1-163-017-00	CERAMIC CHIP 0.0047MF	10% 50V
R101	1-216-025-00	METAL GLAZE 100 5%	1/10W	C357	1-163-117-00	CERAMIC CHIP 100PF	5% 50V
R102	1-216-089-00	METAL GLAZE 47K 5%	1/10W	C358	1-124-767-00	ELECT 2.2MF	20% 50V
R103	1-216-033-00	METAL GLAZE 220 5%	1/10W	C360	1-137-491-11	FILM CHIP 0.1MF	5% 25V
R104	1-216-033-00	METAL GLAZE 220 5%	1/10W	C361	1-126-301-11	ELECT 1MF	20% 50V
<CRYSTAL>				C362	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V
X001	1-579-743-11	VIBRATOR, CRYSTAL		C363	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V
*****				C364	1-126-301-11	ELECT 1MF	20% 50V
*A-1346-138-A E1 BOARD, COMPLETE				C365	1-164-343-11	CERAMIC CHIP 0.056MF	10% 25V
*****				C366	1-124-257-00	ELECT 2.2MF	20% 50V
<CAPACITOR>				C367	1-126-157-11	ELECT 10MF	20% 16V
C301	1-163-010-11	CERAMIC CHIP 0.0012MF	10% 50V	C368	1-124-234-00	ELECT 22MF	20% 16V
C303	1-126-157-11	ELECT 10MF	20% 16V	C369	1-163-001-11	CERAMIC CHIP 220PF	10% 50V
C304	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V	C370	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V
C305	1-163-251-11	CERAMIC CHIP 100PF	5% 50V	C371	1-124-126-00	ELECT 47MF	20% 16V
C306	1-163-117-00	CERAMIC CHIP 100PF	5% 50V	C372	1-124-589-11	ELECT 47MF	20% 16V
C309	1-164-505-11	CERAMIC CHIP 2.2MF	16V	C373	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V
C310	1-163-109-00	CERAMIC CHIP 47PF	5% 50V	C378	1-163-117-00	CERAMIC CHIP 100PF	5% 50V
C314	1-124-915-11	ELECT 10MF	20% 16V	C379	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V
C315	1-164-505-11	CERAMIC CHIP 2.2MF	16V	C380	1-163-137-00	CERAMIC CHIP 680PF	5% 50V
C319	1-126-157-11	ELECT 10MF	20% 16V	C381	1-163-101-00	CERAMIC CHIP 22PF	5% 50V
C320	1-124-465-00	ELECT 0.47MF	20% 50V	C382	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C321	1-163-125-00	CERAMIC CHIP 220PF	5% 50V	C383	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C322	1-163-003-11	CERAMIC CHIP 330PF	10% 50V	C384	1-163-095-00	CERAMIC CHIP 12PF	5% 50V
C323	1-163-099-00	CERAMIC CHIP 18PF	5% 50V				
C324	1-124-234-00	ELECT 22MF	20% 16V	<DIODE>			
C325	1-104-563-11	FILM CHIP 0.1MF	5% 16V	D301	8-719-404-46	DIODE MA110	
C326	1-104-563-11	FILM CHIP 0.1MF	5% 16V	D302	8-719-404-46	DIODE MA110	
C327	1-104-563-11	FILM CHIP 0.1MF	5% 16V	D303	8-719-404-46	DIODE MA110	
C328	1-126-157-11	ELECT 10MF	20% 16V	D304	8-719-404-46	DIODE MA110	
C329	1-126-157-11	ELECT 10MF	20% 16V	D305	8-719-404-46	DIODE MA110	
C330	1-126-157-11	ELECT 10MF	20% 16V	D306	8-719-158-15	DIODE RD5.6SB	
C331	1-126-301-11	ELECT 1MF	20% 50V	D307	8-719-404-46	DIODE MA110	
C332	1-124-584-00	ELECT 100MF	20% 10V	D310	8-719-158-15	DIODE RD5.6SB	
C333	1-163-037-11	CERAMIC CHIP 0.022MF	10% 25V	D312	8-719-404-46	DIODE MA110	
C334	1-137-491-11	FILM CHIP 0.1MF	5% 25V	D313	8-719-404-46	DIODE MA110	
C335	1-136-169-00	FILM 0.22MF	5% 50V	D314	8-719-404-46	DIODE MA110	
				D315	8-719-404-46	DIODE MA110	
				D316	8-719-404-46	DIODE MA110	
				D317	8-719-404-46	DIODE MA110	
				D318	8-719-404-46	DIODE MA110	
				D319	8-719-404-46	DIODE MA110	
				D320	8-719-404-46	DIODE MA110	

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REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
D321	8-719-400-94	DIODE MA3130		R304	1-216-081-00	METAL GLAZE	22K 5% 1/10W
				R305	1-216-069-00	METAL GLAZE	6.8K 5% 1/10W
		<CONNECTOR>		R306	1-216-081-00	METAL GLAZE	22K 5% 1/10W
E1-24	*1-564-523-11	PLUG, CONNECTOR 8P		R307	1-216-089-00	METAL GLAZE	47K 5% 1/10W
E1-25	*1-564-521-11	PLUG, CONNECTOR 6P		R308	1-216-037-00	METAL GLAZE	330 5% 1/10W
E1-26	*1-564-522-11	PLUG, CONNECTOR 7P		R309	1-216-073-00	METAL GLAZE	10K 5% 1/10W
E1-001	1-573-965-21	PIN, CONNECTOR (PC BOARD) 50P		R310	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
		<DELAY LINE>		R312	1-216-043-00	METAL GLAZE	560 5% 1/10W
DL302	1-415-817-11	DELAY LINE		R313	1-216-035-00	METAL GLAZE	270 5% 1/10W
		<IC>		R314	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W
IC301	8-752-058-68	IC CXA1315M		R316	1-216-035-00	METAL GLAZE	270 5% 1/10W
IC302	8-752-057-68	IC CXA1464AS		R317	1-216-121-00	METAL GLAZE	1M 5% 1/10W
IC303	8-759-106-02	IC UPC4570G2		R320	1-216-039-00	METAL GLAZE	390 5% 1/10W
		<COIL>		R325	1-216-033-00	METAL GLAZE	220 5% 1/10W
L301	1-410-064-11	INDUCTOR 2.7MMH		R326	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W
L307	1-410-944-31	INDUCTOR CHIP 15UH		R331	1-216-017-00	METAL GLAZE	47 5% 1/10W
L308	1-410-946-31	INDUCTOR CHIP 22UH		R332	1-216-657-11	METAL CHIP	1.8K 0.50% 1/10W
		<TRANSISTOR>		R333	1-216-051-00	METAL GLAZE	1.2K 5% 1/10W
Q301	8-729-925-79	TRANSISTOR IMX3		R336	1-216-047-00	METAL GLAZE	820 5% 1/10W
Q302	8-729-925-79	TRANSISTOR IMX3		R338	1-216-043-00	METAL GLAZE	560 5% 1/10W
Q303	8-729-422-27	TRANSISTOR 2SD601A-Q		R339	1-216-047-00	METAL GLAZE	820 5% 1/10W
Q304	8-729-907-46	TRANSISTOR IMZ1		R340	1-216-651-11	METAL CHIP	1K 0.50% 1/10W
Q305	8-729-925-79	TRANSISTOR IMX3		R341	1-216-043-00	METAL GLAZE	560 5% 1/10W
Q306	8-729-422-27	TRANSISTOR 2SD601A-Q		R343	1-216-077-00	METAL GLAZE	15K 5% 1/10W
Q307	8-729-903-10	TRANSISTOR FMW1		R344	1-216-081-00	METAL GLAZE	22K 5% 1/10W
Q309	8-729-422-27	TRANSISTOR 2SD601A-Q		R345	1-216-292-11	METAL GLAZE	8.2M 5% 1/8W
Q310	8-729-422-27	TRANSISTOR 2SD601A-Q		R346	1-216-081-00	METAL GLAZE	22K 5% 1/10W
Q311	8-729-403-27	TRANSISTOR XN4401		R347	1-216-081-00	METAL GLAZE	22K 5% 1/10W
Q312	8-729-422-27	TRANSISTOR 2SD601A-Q		R348	1-216-049-00	METAL GLAZE	1K 5% 1/10W
Q314	8-729-403-27	TRANSISTOR XN4401		R349	1-216-295-00	METAL GLAZE	0 5% 1/10W
Q315	8-729-422-27	TRANSISTOR 2SD601A-Q		R350	1-216-089-00	METAL GLAZE	47K 5% 1/10W
Q316	8-729-422-27	TRANSISTOR 2SD601A-Q		R351	1-216-674-11	METAL CHIP	9.1K 0.50% 1/10W
Q317	8-729-216-22	TRANSISTOR 2SA1162-G		R352	1-216-011-00	METAL GLAZE	27 5% 1/10W
Q321	8-729-925-79	TRANSISTOR IMX3		R353	1-216-001-00	METAL GLAZE	10 5% 1/10W
Q322	8-729-216-22	TRANSISTOR 2SA1162-G		R354	1-216-049-00	METAL GLAZE	1K 5% 1/10W
Q323	8-729-422-27	TRANSISTOR 2SD601A-Q		R355	1-216-001-00	METAL GLAZE	10 5% 1/10W
Q324	8-729-216-22	TRANSISTOR 2SA1162-G		R356	1-216-001-00	METAL GLAZE	10 5% 1/10W
Q325	8-729-216-22	TRANSISTOR 2SA1162-G		R357	1-216-049-00	METAL GLAZE	1K 5% 1/10W
Q326	8-729-422-27	TRANSISTOR 2SD601A-Q		R358	1-216-049-00	METAL GLAZE	1K 5% 1/10W
Q327	8-729-422-27	TRANSISTOR 2SD601A-Q		R359	1-216-049-00	METAL GLAZE	1K 5% 1/10W
Q328	8-729-422-27	TRANSISTOR 2SD601A-Q		R360	1-216-119-00	METAL GLAZE	820K 5% 1/10W
Q329	8-729-925-79	TRANSISTOR IMX3		R361	1-216-025-00	METAL GLAZE	100 5% 1/10W
Q330	8-729-925-79	TRANSISTOR IMX3		R362	1-216-079-00	METAL GLAZE	18K 5% 1/10W
Q333	8-729-925-79	TRANSISTOR IMX3		R363	1-216-295-00	METAL GLAZE	0 5% 1/10W
Q334	8-729-422-27	TRANSISTOR 2SD601A-Q		R364	1-216-045-00	METAL GLAZE	680 5% 1/10W
Q335	8-729-907-46	TRANSISTOR IMZ1		R365	1-216-017-00	METAL GLAZE	47 5% 1/10W
Q340	8-729-422-27	TRANSISTOR 2SD601A-Q		R366	1-216-001-00	METAL GLAZE	10 5% 1/10W
Q342	8-729-925-79	TRANSISTOR IMX3		R367	1-216-045-00	METAL GLAZE	680 5% 1/10W
Q344	8-729-216-22	TRANSISTOR 2SA1162-G		R368	1-216-001-00	METAL GLAZE	10 5% 1/10W
		<RESISTOR>		R369	1-216-033-00	METAL GLAZE	220 5% 1/10W
R301	1-216-025-00	METAL GLAZE 100 5%	1/10W	R370	1-216-033-00	METAL GLAZE	220 5% 1/10W
R302	1-216-057-00	METAL GLAZE 2.2K 5%	1/10W	R371	1-216-033-00	METAL GLAZE	220 5% 1/10W
R303	1-216-079-00	METAL GLAZE 18K 5%	1/10W	R372	1-216-031-00	METAL GLAZE	180 5% 1/10W
				R373	1-216-671-11	METAL CHIP	6.8K 0.50% 1/10W
				R374	1-216-037-00	METAL GLAZE	330 5% 1/10W
				R375	1-216-037-00	METAL GLAZE	330 5% 1/10W
				R376	1-216-037-00	METAL GLAZE	330 5% 1/10W
				R377	1-216-033-00	METAL GLAZE	220 5% 1/10W
				R378	1-216-033-00	METAL GLAZE	220 5% 1/10W
				R379	1-216-033-00	METAL GLAZE	220 5% 1/10W
				R380	1-216-033-00	METAL GLAZE	220 5% 1/10W
				R381	1-216-033-00	METAL GLAZE	220 5% 1/10W
				R382	1-216-033-00	METAL GLAZE	220 5% 1/10W

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REF.NO.	PART NO.	DESCRIPTION	REMARK
R383	1-216-653-11	METAL CHIP 1.2K 0.50% 1/10W	
R384	1-216-041-00	METAL GLAZE 470 5% 1/10W	
R385	1-216-081-00	METAL GLAZE 22K 5% 1/10W	
R386	1-216-687-11	METAL CHIP 33K 0.50% 1/10W	
R387	1-216-033-00	METAL GLAZE 220 5% 1/10W	
R388	1-216-033-00	METAL GLAZE 220 5% 1/10W	
R389	1-216-081-00	METAL GLAZE 22K 5% 1/10W	
R390	1-216-033-00	METAL GLAZE 220 5% 1/10W	
R391	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R393	1-216-051-00	METAL GLAZE 1.2K 5% 1/10W	
R394	1-216-109-00	METAL GLAZE 330K 5% 1/10W	
R395	1-216-071-00	METAL GLAZE 8.2K 5% 1/10W	
R396	1-216-105-00	METAL GLAZE 220K 5% 1/10W	
R397	1-216-081-00	METAL GLAZE 22K 5% 1/10W	
R398	1-216-081-00	METAL GLAZE 22K 5% 1/10W	
R399	1-216-077-00	METAL GLAZE 15K 5% 1/10W	
R1301	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R1302	1-216-045-00	METAL GLAZE 680 5% 1/10W	
R1303	1-216-085-00	METAL GLAZE 33K 5% 1/10W	
R1304	1-216-081-00	METAL GLAZE 22K 5% 1/10W	
R1305	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R1306	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W	
R1307	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R1308	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R1309	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R1310	1-216-045-00	METAL GLAZE 680 5% 1/10W	
R1311	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R1312	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R1313	1-216-081-00	METAL GLAZE 22K 5% 1/10W	
R1314	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R1315	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R1316	1-216-081-00	METAL GLAZE 22K 5% 1/10W	
R1317	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R1318	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R1319	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R1320	1-216-063-00	METAL GLAZE 3.9K 5% 1/10W	
R1321	1-216-081-00	METAL GLAZE 22K 5% 1/10W	
R1322	1-216-061-00	METAL GLAZE 3.3K 5% 1/10W	
R1323	1-216-089-00	METAL GLAZE 47K 5% 1/10W	
R1324	1-216-045-00	METAL GLAZE 680 5% 1/10W	
R1325	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R1326	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R1327	1-216-033-00	METAL GLAZE 220 5% 1/10W	
R1328	1-216-033-00	METAL GLAZE 220 5% 1/10W	
R1329	1-216-077-00	METAL GLAZE 15K 5% 1/10W	
R1330	1-216-081-00	METAL GLAZE 22K 5% 1/10W	
R1331	1-216-081-00	METAL GLAZE 22K 5% 1/10W	
R1332	1-216-093-00	METAL GLAZE 68K 5% 1/10W	
R1333	1-216-129-00	METAL GLAZE 2.2M 5% 1/10W	
R1334	1-216-097-00	METAL GLAZE 100K 5% 1/10W	
R1335	1-216-089-00	METAL GLAZE 47K 5% 1/10W	
R1336	1-216-089-00	METAL GLAZE 47K 5% 1/10W	
R1337	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R1338	1-216-089-00	METAL GLAZE 47K 5% 1/10W	
R1339	1-216-089-00	METAL GLAZE 47K 5% 1/10W	
R1340	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R1342	1-216-033-00	METAL GLAZE 220 5% 1/10W	
R1343	1-216-105-00	METAL GLAZE 220K 5% 1/10W	
R1344	1-216-091-00	METAL GLAZE 56K 5% 1/10W	
R1345	1-216-101-00	METAL GLAZE 150K 5% 1/10W	
R1346	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R1347	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R1348	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R1349	1-216-073-00	METAL GLAZE 10K 5% 1/10W	

REF.NO.	PART NO.	DESCRIPTION	REMARK
R1350	1-216-091-00	METAL GLAZE 56K 5% 1/10W	
R1351	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R1352	1-216-039-00	METAL GLAZE 390 5% 1/10W	
R1353	1-216-053-00	METAL GLAZE 1.5K 5% 1/10W	
R1354	1-216-081-00	METAL GLAZE 22K 5% 1/10W	
R1355	1-216-017-00	METAL GLAZE 47 5% 1/10W	
R1356	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W	
R1357	1-216-081-00	METAL GLAZE 22K 5% 1/10W	
R1358	1-216-033-00	METAL GLAZE 220 5% 1/10W	
R1362	1-216-105-00	METAL GLAZE 220K 5% 1/10W	
R1363	1-216-041-00	METAL GLAZE 470 5% 1/10W	
R1364	1-216-053-00	METAL GLAZE 1.5K 5% 1/10W	
R1373	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R1374	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R1379	1-216-079-00	METAL GLAZE 18K 5% 1/10W	
R1380	1-216-075-00	METAL GLAZE 12K 5% 1/10W	
R1381	1-216-041-00	METAL GLAZE 470 5% 1/10W	
R1382	1-216-079-00	METAL GLAZE 18K 5% 1/10W	
R1383	1-216-077-00	METAL GLAZE 15K 5% 1/10W	
R1384	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R1385	1-216-037-00	METAL GLAZE 330 5% 1/10W	
R1386	1-216-037-00	METAL GLAZE 330 5% 1/10W	
R1387	1-216-045-00	METAL GLAZE 680 5% 1/10W	
R1388	1-216-001-00	METAL GLAZE 10 5% 1/10W	
R1389	1-216-097-00	METAL GLAZE 100K 5% 1/10W	
R1390	1-216-097-00	METAL GLAZE 100K 5% 1/10W	
R1391	1-216-097-00	METAL GLAZE 100K 5% 1/10W	
R1392	1-216-081-00	METAL GLAZE 22K 5% 1/10W	
R1394	1-216-081-00	METAL GLAZE 22K 5% 1/10W	
R1395	1-216-081-00	METAL GLAZE 22K 5% 1/10W	
R1396	1-216-125-00	METAL GLAZE 1.5M 5% 1/10W	
R1399	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R5301	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W	
R5302	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R5303	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R5304	1-216-085-00	METAL GLAZE 33K 5% 1/10W	
R5305	1-216-085-00	METAL GLAZE 33K 5% 1/10W	
<CRYSTAL>			
X301	1-567-505-11	OSCILLATOR, CRYSTAL	
*****			
*A-1346-136-A E2 BOARD, COMPLETE			
*****			
<CAPACITOR>			
C2302	1-163-009-11	CERAMIC CHIP 0.001MF	10% 50V
C2303	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V
C2310	1-163-105-00	CERAMIC CHIP 33PF	5% 50V
C2313	1-163-133-00	CERAMIC CHIP 470PF	5% 50V
C2314	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V
C2315	1-126-157-11	ELECT 10MF	20% 16V
C2316	1-126-157-11	ELECT 10MF	20% 16V
C2317	1-126-157-11	ELECT 10MF	20% 16V
C2318	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V
C2320	1-124-589-11	ELECT 47MF	20% 16V
C2321	1-163-017-00	CERAMIC CHIP 0.0047MF	10% 50V
C2322	1-124-234-00	ELECT 22MF	20% 16V
C2323	1-124-234-00	ELECT 22MF	20% 16V
C2324	1-124-234-00	ELECT 22MF	20% 16V
C2325	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V

REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
C2326	1-124-589-11	ELECT 47MF	20% 16V	Q2310	8-729-403-27	TRANSISTOR XN4401	
C2327	1-164-505-11	CERAMIC CHIP 2.2MF	16V	Q2311	8-729-903-10	TRANSISTOR FMW1	
C2328	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V	Q2312	8-729-403-27	TRANSISTOR XN4401	
C2329	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V	Q2313	8-729-903-10	TRANSISTOR FMW1	
C2331	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V	Q2314	8-729-403-27	TRANSISTOR XN4401	
C2332	1-124-234-00	ELECT 22MF	20% 16V	Q2315	8-729-903-10	TRANSISTOR FMW1	
C2333	1-124-234-00	ELECT 22MF	20% 16V	Q2317	8-729-216-22	TRANSISTOR 2SA1162-G	
C2334	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V	Q2318	8-729-216-22	TRANSISTOR 2SA1162-G	
C2335	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V	Q2319	8-729-216-22	TRANSISTOR 2SA1162-G	
C2336	1-126-163-11	ELECT 4.7MF	20% 16V	Q2320	8-729-422-27	TRANSISTOR 2SD601A-Q	
C2337	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V	Q2321	8-729-422-27	TRANSISTOR 2SD601A-Q	
C2338	1-163-038-00	CERAMIC CHIP 0.1MF	25V	Q2322	8-729-422-27	TRANSISTOR 2SD601A-Q	
C2340	1-163-251-11	CERAMIC CHIP 100PF	5% 50V	Q2324	8-729-216-22	TRANSISTOR 2SA1162-G	
C2345	1-164-505-11	CERAMIC CHIP 2.2MF	16V	Q2326	8-729-422-27	TRANSISTOR 2SD601A-Q	
C2346	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V	Q2327	8-729-422-27	TRANSISTOR 2SD601A-Q	
C2347	1-163-367-11	CERAMIC CHIP 39PF	5% 50V	Q2330	8-729-903-10	TRANSISTOR FMW1	
C2349	1-164-505-11	CERAMIC CHIP 2.2MF	16V	Q2337	8-729-925-79	TRANSISTOR 1MX3	
C2350	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V	Q2338	8-729-422-27	TRANSISTOR 2SD601A-Q	
C2351	1-164-505-11	CERAMIC CHIP 2.2MF	16V	Q2339	8-729-422-27	TRANSISTOR 2SD601A-Q	
C2352	1-164-505-11	CERAMIC CHIP 2.2MF	16V	Q2340	8-729-422-27	TRANSISTOR 2SD601A-Q	
C2353	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V	Q2341	8-729-422-27	TRANSISTOR 2SD601A-Q	
C2354	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V	Q2342	8-729-422-27	TRANSISTOR 2SD601A-Q	
C2357	1-126-301-11	ELECT 1MF	20% 50V	Q2345	8-729-422-27	TRANSISTOR 2SD601A-Q	
C2360	1-163-109-00	CERAMIC CHIP 47PF	5% 50V				
<DIODE>				<RESISTOR>			
D2306	8-719-404-46	DIODE MA110		R2302	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
D2307	8-719-946-98	DIODE FMN1		R2303	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
D2308	8-719-946-98	DIODE FMN1		R2304	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
D2309	8-719-404-46	DIODE MA110		R2305	1-216-033-00	METAL GLAZE 220 5% 1/10W	
D2312	8-719-404-46	DIODE MA110		R2306	1-216-045-00	METAL GLAZE 680 5% 1/10W	
D2313	8-719-404-46	DIODE MA110		R2307	1-216-045-00	METAL GLAZE 680 5% 1/10W	
D2314	8-713-300-57	DIODE 1T33		R2308	1-216-045-00	METAL GLAZE 680 5% 1/10W	
D2317	8-719-404-46	DIODE MA110		R2309	1-216-041-00	METAL GLAZE 470 5% 1/10W	
<CONNECTOR>				R2310	1-216-055-00	METAL GLAZE 1.8K 5% 1/10W	
E2-25	*1-564-521-11	PLUG, CONNECTOR 6P		R2311	1-216-025-00	METAL GLAZE 100 5% 1/10W	
E2-26	*1-564-522-11	PLUG, CONNECTOR 7P		R2312	1-216-043-00	METAL GLAZE 560 5% 1/10W	
E2-46	*1-564-518-11	PLUG, CONNECTOR 3P		R2313	1-216-055-00	METAL GLAZE 1.8K 5% 1/10W	
E2-002	1-573-965-21	PIN, CONNECTOR (PC BOARD) 50P		R2314	1-216-061-00	METAL GLAZE 3.3K 5% 1/10W	
<IC>				R2315	1-216-081-00	METAL GLAZE 22K 5% 1/10W	
IC2301	8-759-066-52	IC PCA8510T/012-T		R2317	1-216-041-00	METAL GLAZE 470 5% 1/10W	
IC2303	8-759-925-75	IC SN74HC05ANS		R2318	1-216-055-00	METAL GLAZE 1.8K 5% 1/10W	
IC2304	8-752-037-15	IC CXA1387S		R2319	1-216-079-00	METAL GLAZE 18K 5% 1/10W	
IC2306	8-759-011-65	IC MC74HC4053F		R2320	1-216-061-00	METAL GLAZE 3.3K 5% 1/10W	
IC2307	8-752-058-68	IC CXA1315M		R2321	1-216-063-00	METAL GLAZE 3.9K 5% 1/10W	
<COIL>				R2322	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
L2304	1-408-414-00	INDUCTOR 27UH		R2323	1-216-067-00	METAL GLAZE 5.6K 5% 1/10W	
<TRANSISTOR>				R2324	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
Q2301	8-729-903-10	TRANSISTOR FMW1		R2325	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
Q2303	8-729-403-27	TRANSISTOR XN4401		R2326	1-216-061-00	METAL GLAZE 3.3K 5% 1/10W	
Q2304	8-729-925-79	TRANSISTOR 1MX3		R2327	1-216-063-00	METAL GLAZE 3.9K 5% 1/10W	
Q2305	8-729-903-10	TRANSISTOR FMW1		R2328	1-216-025-00	METAL GLAZE 100 5% 1/10W	
Q2306	8-729-403-27	TRANSISTOR XN4401		R2329	1-216-025-00	METAL GLAZE 100 5% 1/10W	
Q2307	8-729-403-27	TRANSISTOR XN4401		R2330	1-216-061-00	METAL GLAZE 3.3K 5% 1/10W	
Q2308	8-729-403-27	TRANSISTOR XN4401		R2331	1-216-063-00	METAL GLAZE 3.9K 5% 1/10W	
Q2309	8-729-903-10	TRANSISTOR FMW1		R2332	1-216-025-00	METAL GLAZE 100 5% 1/10W	
				R2333	1-216-067-00	METAL GLAZE 5.6K 5% 1/10W	
				R2334	1-216-295-00	METAL GLAZE 0 5% 1/10W	
				R2335	1-216-295-00	METAL GLAZE 0 5% 1/10W	
				R2336	1-216-295-00	METAL GLAZE 0 5% 1/10W	
				R2337	1-216-033-00	METAL GLAZE 220 5% 1/10W	
				R2338	1-216-081-00	METAL GLAZE 22K 5% 1/10W	
				R2340	1-216-049-00	METAL GLAZE 1K 5% 1/10W	

$Y_2$ 

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REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
C441	1-126-301-11	ELECT	1MF 20% 50V				
C442	1-124-261-00	ELECT	10MF 20% 50V				
C443	1-124-589-11	ELECT	47MF 20% 16V				
C444	1-126-163-11	ELECT	4.7MF 20% 50V				
C445	1-126-163-11	ELECT	4.7MF 20% 50V				
C446	1-124-234-00	ELECT	22MF 20% 16V				
C447	1-126-301-11	ELECT	1MF 20% 50V				
C448	1-136-170-00	FILM	0.27MF 5% 50V				
C449	1-163-009-11	CERAMIC CHIP	0.001MF 10% 50V				
C450	1-130-475-00	MYLAR	0.0022MF 5% 50V				
C451	1-124-261-00	ELECT	10MF 20% 50V				
C452	1-124-261-00	ELECT	10MF 20% 50V				
C453	1-130-475-00	MYLAR	0.0022MF 5% 50V				
C454	1-131-368-00	TANTALUM	3.3MF 10% 16V				
C455	1-131-347-00	TANTALUM	1MF 20% 16V				
C456	1-136-171-00	FILM	0.33MF 5% 50V				
C457	1-136-175-00	FILM	0.68MF 5% 50V				
C458	1-126-101-11	ELECT	100MF 20% 16V				
C459	1-126-101-11	ELECT	100MF 20% 16V				
C460	1-126-101-11	ELECT	100MF 20% 16V				
C461	1-124-499-11	ELECT	1MF 20% 50V				
C462	1-124-499-11	ELECT	1MF 20% 50V				
C465	1-130-485-00	MYLAR	0.015MF 5% 50V				
C466	1-130-485-00	MYLAR	0.015MF 5% 50V				
C467	1-136-169-00	FILM	0.22MF 5% 50V				
C468	1-136-169-00	FILM	0.22MF 5% 50V				
C469	1-126-157-11	ELECT	10MF 20% 16V				
C470	1-126-157-11	ELECT	10MF 20% 16V				
C471	1-124-589-11	ELECT	47MF 20% 16V				
C472	1-164-232-11	CERAMIC CHIP	0.01MF 10% 50V				
C473	1-164-232-11	CERAMIC CHIP	0.01MF 10% 50V				
C474	1-124-234-00	ELECT	22MF 20% 16V				
C475	1-164-232-11	CERAMIC CHIP	0.01MF 10% 50V				
C476	1-124-234-00	ELECT	22MF 20% 16V				
C477	1-164-232-11	CERAMIC CHIP	0.01MF 10% 50V				
C478	1-124-478-11	ELECT	100MF 20% 25V				
C479	1-126-163-11	ELECT	4.7MF 20% 50V				
C480	1-124-768-11	ELECT	4.7MF 20% 50V				
C481	1-124-768-11	ELECT	4.7MF 20% 50V				
C482	1-126-163-11	ELECT	4.7MF 20% 50V				
C483	1-163-113-00	CERAMIC CHIP	68PF 5% 50V				
C484	1-163-113-00	CERAMIC CHIP	68PF 5% 50V				
C485	1-163-038-00	CERAMIC CHIP	0.1MF 25V				
C487	1-164-232-11	CERAMIC CHIP	0.01MF 10% 50V				
C488	1-164-232-11	CERAMIC CHIP	0.01MF 10% 50V				
<DIODE>							
D405	8-719-107-13	DIODE RD18M-B1					
D406	8-719-107-13	DIODE RD18M-B1					
D407	8-719-107-13	DIODE RD18M-B1					
D408	8-719-105-83	DIODE RD5.1M-B3					
D409	8-719-981-50	DIODE RB100A					
D410	8-719-981-50	DIODE RB100A					
D413	8-719-158-19	DIODE RD6.2SB					
D414	8-719-158-55	DIODE RD15SB					
D415	8-719-158-55	DIODE RD15SB					
<IC>							
IC403	8-759-996-43	IC RC4558PS					
IC404	8-759-067-24	IC 24C04A1/P					
IC406	8-752-037-24	IC CXA1264AS					
IC407	8-759-245-75	IC TA8184P					
IC408	8-752-057-18	IC CXA1315P					
<TRANSISTOR>							
Q404	8-729-216-22	TRANSISTOR 2SA1162-G					
Q405	8-729-216-22	TRANSISTOR 2SA1162-G					
Q409	8-729-422-27	TRANSISTOR 2SD601A-Q					
Q410	8-729-422-27	TRANSISTOR 2SD601A-Q					
<RESISTOR>							
R447	1-216-033-00	METAL GLAZE	220 5% 1/10W				
R453	1-216-033-00	METAL GLAZE	220 5% 1/10W				
R464	1-216-081-00	METAL GLAZE	22K 5% 1/10W				
R465	1-216-081-00	METAL GLAZE	22K 5% 1/10W				
R466	1-216-025-00	METAL GLAZE	100 5% 1/10W				
R467	1-216-033-00	METAL GLAZE	220 5% 1/10W				
R468	1-216-033-00	METAL GLAZE	220 5% 1/10W				
R469	1-216-055-00	METAL GLAZE	1.8K 5% 1/10W				
R470	1-216-033-00	METAL GLAZE	220 5% 1/10W				
R471	1-216-033-00	METAL GLAZE	220 5% 1/10W				
R472	1-216-686-11	METAL CHIP	30K 0.50% 1/10W				
R473	1-216-295-00	METAL GLAZE	0 5% 1/10W				
R474	1-216-295-00	METAL GLAZE	0 5% 1/10W				
R475	1-216-055-00	METAL GLAZE	1.8K 5% 1/10W				
R476	1-216-673-11	METAL CHIP	8.2K 0.50% 1/10W				
R477	1-216-676-11	METAL CHIP	11K 0.50% 1/10W				
R478	1-216-089-00	METAL GLAZE	47K 5% 1/10W				
R479	1-216-673-11	METAL CHIP	8.2K 0.50% 1/10W				
R480	1-216-676-11	METAL CHIP	11K 0.50% 1/10W				
R481	1-216-089-00	METAL GLAZE	47K 5% 1/10W				
R482	1-216-089-00	METAL GLAZE	47K 5% 1/10W				
R483	1-216-089-00	METAL GLAZE	47K 5% 1/10W				
R485	1-216-073-00	METAL GLAZE	10K 5% 1/10W				
R486	1-216-073-00	METAL GLAZE	10K 5% 1/10W				
R488	1-216-295-00	METAL GLAZE	0 5% 1/10W				
R494	1-216-025-00	METAL GLAZE	100 5% 1/10W				
R495	1-216-025-00	METAL GLAZE	100 5% 1/10W				
R496	1-216-025-00	METAL GLAZE	100 5% 1/10W				
R497	1-216-033-00	METAL GLAZE	220 5% 1/10W				
R498	1-216-025-00	METAL GLAZE	100 5% 1/10W				
R499	1-216-025-00	METAL GLAZE	100 5% 1/10W				
R500	1-216-081-00	METAL GLAZE	22K 5% 1/10W				
R501	1-216-669-11	METAL CHIP	5.6K 0.50% 1/10W				
R502	1-216-033-00	METAL GLAZE	220 5% 1/10W				
R503	1-216-663-11	METAL CHIP	3.3K 0.50% 1/10W				
R504	1-216-669-11	METAL CHIP	5.6K 0.50% 1/10W				
R507	1-216-295-00	METAL GLAZE	0 5% 1/10W				
R509	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W				
R510	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W				
R512	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W				
R513	1-216-663-11	METAL CHIP	3.3K 0.50% 1/10W				
R515	1-216-295-00	METAL GLAZE	0 5% 1/10W				
R517	1-216-025-00	METAL GLAZE	100 5% 1/10W				
R518	1-216-089-00	METAL GLAZE	47K 5% 1/10W				
R519	1-216-295-00	METAL GLAZE	0 5% 1/10W				
R521	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W				
R522	1-216-033-00	METAL GLAZE	220 5% 1/10W				
R523	1-216-033-00	METAL GLAZE	220 5% 1/10W				
R524	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W				
R525	1-216-049-00	METAL GLAZE	1K 5% 1/10W				
R526	1-216-049-00	METAL GLAZE	1K 5% 1/10W				
R527	1-218-753-11	METAL CHIP	110K 0.50% 1/10W				
R528	1-216-689-11	METAL CHIP	39K 0.50% 1/10W				
R529	1-216-097-00	METAL GLAZE	100K 5% 1/10W				

Y2

P2

REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
R531	1-216-097-00	METAL GLAZE	100K 5% 1/10W	C3040	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V
R532	1-216-097-00	METAL GLAZE	100K 5% 1/10W	C3041	1-124-034-51	ELECT 33MF	20% 16V
R533	1-216-097-00	METAL GLAZE	100K 5% 1/10W	C3042	1-130-491-00	MYLAR 0.047MF	5% 50V
R535	1-216-049-00	METAL GLAZE	1K 5% 1/10W	C3043	1-124-465-00	ELECT 0.47MF	20% 50V
R536	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	C3044	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V
R537	1-216-049-00	METAL GLAZE	1K 5% 1/10W	C3045	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V
R538	1-218-753-11	METAL CHIP	110K 0.50% 1/10W	C3046	1-126-177-11	ELECT 100MF	20% 6.3V
R539	1-216-689-11	METAL CHIP	39K 0.50% 1/10W	C3047	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V
R540	1-216-025-00	METAL GLAZE	100 5% 1/10W	C3049	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V
R541	1-216-025-00	METAL GLAZE	100 5% 1/10W	C3050	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V
R542	1-216-025-00	METAL GLAZE	100 5% 1/10W	C3051	1-124-034-51	ELECT 33MF	20% 16V
R543	1-216-025-00	METAL GLAZE	100 5% 1/10W	C3052	1-126-101-11	ELECT 100MF	20% 16V
R546	1-216-682-11	METAL CHIP	20K 0.50% 1/10W	C3054	1-124-261-00	ELECT 10MF	20% 50V
R547	1-216-682-11	METAL CHIP	20K 0.50% 1/10W	C3057	1-124-478-11	ELECT 100MF	20% 25V
				C3058	1-124-478-11	ELECT 100MF	20% 25V
<CONNECTOR>				<COMPOSITION CIRCUIT BLOCK>			
Y2-401 1-573-966-11 PIN, CONNECTOR (PC BOARD) 36P				CP3001 1-236-176-11 NETWORK, RES, THICK FILM			
*****				CP3002 1-236-176-11 NETWORK, RES, THICK FILM			
*A-1195-067-A P2 BOARD, COMPLETE				CP3003 1-236-176-11 NETWORK, RES, THICK FILM			
*****				<DIODE>			
<CAPACITOR>				D3002 8-713-300-57 DIODE 1T33			
C3001	1-163-111-00	CERAMIC CHIP 56PF	5% 50V	D3003 8-713-300-57 DIODE 1T33			
C3002	1-163-127-00	CERAMIC CHIP 270PF	5% 50V	D3004 8-719-404-46 DIODE MA110			
C3003	1-163-127-00	CERAMIC CHIP 270PF	5% 50V	<FILTER>			
C3004	1-124-034-51	ELECT 33MF	20% 16V	FL3001 1-236-129-11 ENCAPSULATED COMPONENT			
C3005	1-124-034-51	ELECT 33MF	20% 16V	FL3002 1-236-129-11 ENCAPSULATED COMPONENT			
C3006	1-126-177-11	ELECT 100MF	20% 6.3V	FL3003 1-236-129-11 ENCAPSULATED COMPONENT			
C3007	1-126-177-11	ELECT 100MF	20% 6.3V	FL3004 1-236-071-11 ENCAPSULATED COMPONENT			
C3008	1-163-117-00	CERAMIC CHIP 100PF	5% 50V	FL3005 1-236-071-11 ENCAPSULATED COMPONENT			
C3009	1-163-119-00	CERAMIC CHIP 120PF	5% 50V	FL3006 1-236-129-11 ENCAPSULATED COMPONENT			
C3010	1-163-117-00	CERAMIC CHIP 100PF	5% 50V	FL3007 1-236-164-11 ENCAPSULATED COMPONENT			
C3011	1-163-119-00	CERAMIC CHIP 120PF	5% 50V	FL3008 1-236-163-11 ENCAPSULATED COMPONENT			
C3012	1-163-017-00	CERAMIC CHIP 0.0047MF	10% 50V	FL3009 1-236-164-11 ENCAPSULATED COMPONENT			
C3013	1-163-017-00	CERAMIC CHIP 0.0047MF	10% 50V	FL3010 1-236-129-11 ENCAPSULATED COMPONENT			
C3014	1-163-141-00	CERAMIC CHIP 0.001MF	5% 50V	FL3011 1-236-163-11 ENCAPSULATED COMPONENT			
C3015	1-130-483-00	MYLAR 0.01MF	5% 50V	FL3012 1-236-163-11 ENCAPSULATED COMPONENT			
C3016	1-126-177-11	ELECT 100MF	20% 6.3V	FL3013 1-236-163-11 ENCAPSULATED COMPONENT			
C3017	1-126-301-11	ELECT 1MF	20% 50V	FL3014 1-236-129-11 ENCAPSULATED COMPONENT			
C3018	1-130-477-00	MYLAR 0.0033MF	5% 50V	<IC>			
C3019	1-163-127-00	CERAMIC CHIP 270PF	5% 50V	IC3001 8-759-032-11 IC MC74HC04AF			
C3020	1-163-121-00	CERAMIC CHIP 150PF	5% 50V	IC3002 8-759-032-11 IC MC74HC04AF			
C3021	1-163-101-00	CERAMIC CHIP 22PF	5% 50V	IC3003 8-752-332-83 IC CXD1220AQ			
C3022	1-163-115-00	CERAMIC CHIP 82PF	5% 50V	IC3004 8-759-605-15 IC M5M4C500L-10			
C3023	1-126-301-11	ELECT 1MF	20% 50V	IC3005 8-759-605-14 IC M52678P			
C3024	1-126-177-11	ELECT 100MF	20% 6.3V	IC3006 8-759-605-15 IC M5M4C500L-10			
C3025	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V	IC3007 8-759-011-65 IC MC74HC4053F			
C3026	1-163-101-00	CERAMIC CHIP 22PF	5% 50V	IC3008 8-759-605-15 IC M5M4C500L-10			
C3027	1-124-034-51	ELECT 33MF	20% 16V	IC3009 8-759-605-14 IC M52678P			
C3028	1-163-085-00	CERAMIC CHIP 2PF	0.25PF 50V	IC3010 8-759-112-06 IC UPC78N05H			
C3029	1-163-097-00	CERAMIC CHIP 15PF	5% 50V	IC3011 8-759-049-49 IC UPC7893AHF			
C3030	1-124-034-51	ELECT 33MF	20% 16V	<CONNECTOR>			
C3031	1-126-096-11	ELECT 10MF	20% 25V	J3001 *1-573-965-11 PIN, CONNECTOR (PC BOARD) 50P			
C3032	1-130-479-00	MYLAR 0.0047MF	5% 50V				
C3033	1-124-465-00	ELECT 0.47MF	20% 50V				
C3034	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V				
C3035	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V				
C3036	1-124-034-51	ELECT 33MF	20% 16V				
C3037	1-126-163-11	ELECT 4.7MF	20% 50V				
C3038	1-124-034-51	ELECT 33MF	20% 16V				
C3039	1-126-163-11	ELECT 4.7MF	20% 50V				



Les composants identifiés par une trame et une marque  $\Delta$  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifique.

The components identified by shading and mark  $\Delta$  are critical for safety. Replace only with part number specified.

KP-46XBR25/53XBR25/61XBR21  
RM-Y114

P2

X3

REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
<COIL>							
L3001	1-410-470-11	INDUCTOR	10UH	R3033	1-216-041-00	METAL GLAZE	470 5% 1/10W
L3002	1-410-470-11	INDUCTOR	10UH	R3034	1-216-033-00	METAL GLAZE	220 5% 1/10W
L3003	1-410-470-11	INDUCTOR	10UH	R3035	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W
L3004	1-410-470-11	INDUCTOR	10UH	R3036	1-216-049-00	METAL GLAZE	1K 5% 1/10W
L3005	1-408-421-00	INDUCTOR	100UH	R3037	1-216-047-00	METAL GLAZE	820 5% 1/10W
L3006	1-408-421-00	INDUCTOR	100UH	R3038	1-216-053-00	METAL GLAZE	1.5K 5% 1/10W
L3007	1-408-424-00	INDUCTOR	180UH	R3039	1-216-051-00	METAL GLAZE	1.2K 5% 1/10W
L3008	1-408-427-00	INDUCTOR	330UH	R3040	1-216-049-00	METAL GLAZE	1K 5% 1/10W
<CONNECTOR>				R3041	1-216-033-00	METAL GLAZE	220 5% 1/10W
P2-40	*1-564-519-11	PLUG, CONNECTOR 4P		R3042	1-216-077-00	METAL GLAZE	15K 5% 1/10W
<TRANSISTOR>				R3043	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W
Q3001	8-729-422-27	TRANSISTOR 2SD601A-Q		R3044	1-216-049-00	METAL GLAZE	1K 5% 1/10W
Q3002	8-729-422-27	TRANSISTOR 2SD601A-Q		R3045	1-216-077-00	METAL GLAZE	15K 5% 1/10W
Q3003	8-729-216-22	TRANSISTOR 2SA1162-G		R3046	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W
Q3004	8-729-422-27	TRANSISTOR 2SD601A-Q		R3047	1-216-049-00	METAL GLAZE	1K 5% 1/10W
Q3005	8-729-216-22	TRANSISTOR 2SA1162-G		R3048	1-216-049-00	METAL GLAZE	1K 5% 1/10W
Q3006	8-729-216-22	TRANSISTOR 2SA1162-G		R3049	1-216-662-11	METAL CHIP	3K 0.50% 1/10W
Q3007	8-729-216-22	TRANSISTOR 2SA1162-G		R3050	1-216-069-00	METAL GLAZE	6.8K 5% 1/10W
Q3008	8-729-216-22	TRANSISTOR 2SA1162-G		R3051	1-216-089-00	METAL GLAZE	47K 5% 1/10W
Q3009	8-729-422-27	TRANSISTOR 2SD601A-Q		R3052	1-216-295-00	METAL GLAZE	0 5% 1/10W
Q3010	8-729-422-27	TRANSISTOR 2SD601A-Q		R3054	1-216-059-00	METAL GLAZE	2.7K 5% 1/10W
Q3011	8-729-422-27	TRANSISTOR 2SD601A-Q		R3055	1-216-053-00	METAL GLAZE	1.5K 5% 1/10W
Q3012	8-729-422-27	TRANSISTOR 2SD601A-Q		R3056	1-216-059-00	METAL GLAZE	2.7K 5% 1/10W
Q3013	8-729-422-27	TRANSISTOR 2SD601A-Q		R3057	1-216-063-00	METAL GLAZE	3.9K 5% 1/10W
Q3014	8-729-422-27	TRANSISTOR 2SD601A-Q		R3058	1-216-049-00	METAL GLAZE	1K 5% 1/10W
Q3015	8-729-422-27	TRANSISTOR 2SD601A-Q		R3059	1-216-689-11	METAL GLAZE	39K 5% 1/10W
<RESISTOR>				R3060	1-216-063-00	METAL GLAZE	3.9K 5% 1/10W
R3001	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R3061	1-216-055-00	METAL GLAZE	1.8K 5% 1/10W
R3002	1-216-097-00	METAL GLAZE	100K 5% 1/10W	R3062	1-216-059-00	METAL GLAZE	2.7K 5% 1/10W
R3003	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R3063	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W
R3005	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W	R3064	1-216-059-00	METAL GLAZE	2.7K 5% 1/10W
R3006	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R3065	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W
R3007	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R3066	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W
R3008	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R3067	1-216-053-00	METAL GLAZE	1.5K 5% 1/10W
R3009	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R3068	1-216-071-00	METAL GLAZE	8.2K 5% 1/10W
R3010	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R3069	1-216-063-00	METAL GLAZE	3.9K 5% 1/10W
R3011	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R3070	1-216-047-00	METAL GLAZE	820 5% 1/10W
R3012	1-216-093-00	METAL GLAZE	68K 5% 1/10W	R3071	1-216-055-00	METAL GLAZE	1.8K 5% 1/10W
R3013	1-216-097-00	METAL GLAZE	100K 5% 1/10W	R3072	1-216-059-00	METAL GLAZE	2.7K 5% 1/10W
R3014	1-216-091-00	METAL GLAZE	56K 5% 1/10W	R3073	1-216-069-00	METAL GLAZE	6.8K 5% 1/10W
R3015	1-216-097-00	METAL GLAZE	100K 5% 1/10W	R3074	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R3016	1-216-093-00	METAL GLAZE	68K 5% 1/10W	R3080	$\Delta$ 1-216-358-91	METAL OXIDE	5.6 5% 1W F
R3017	1-216-077-00	METAL GLAZE	15K 5% 1/10W	<VARIABLE RESISTOR>			
R3018	1-216-091-00	METAL GLAZE	56K 5% 1/10W	RV3001	1-238-012-11	RES, ADJ, CARBON 1K	
R3019	1-216-049-00	METAL GLAZE	1K 5% 1/10W	RV3002	1-238-012-11	RES, ADJ, CARBON 1K	
R3020	1-216-017-00	METAL GLAZE	47 5% 1/10W	<COIL>			
R3021	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W	T3001	1-404-607-11	COIL	
R3022	1-216-049-00	METAL GLAZE	1K 5% 1/10W	T3002	1-404-607-11	COIL	
R3024	1-216-049-00	METAL GLAZE	1K 5% 1/10W	*****			
R3025	1-216-033-00	METAL GLAZE	220 5% 1/10W	*A-1394-446-A X3 BOARD, COMPLETE			
R3026	1-216-049-00	METAL GLAZE	1K 5% 1/10W	*****			
R3027	1-216-053-00	METAL GLAZE	1.5K 5% 1/10W	<CAPACITOR>			
R3028	1-216-033-00	METAL GLAZE	220 5% 1/10W	C2501	1-124-477-11	ELECT	47MF 20% 16V
R3029	1-216-043-00	METAL GLAZE	560 5% 1/10W	C2502	1-124-477-11	ELECT	47MF 20% 16V
R3030	1-216-043-00	METAL GLAZE	560 5% 1/10W	C2505	1-124-638-11	ELECT	22MF 20% 6.3V
R3031	1-216-043-00	METAL GLAZE	560 5% 1/10W	C2506	1-126-177-11	ELECT	100MF 20% 10V
R3032	1-216-077-00	METAL GLAZE	15K 5% 1/10W				

X3

REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
C2507	1-126-163-11	ELECT 4.7MF	20%	16V			
C2508	1-163-109-00	CERAMIC CHIP 47PF	5%	50V			
C2509	1-126-163-11	ELECT 4.7MF	20%	50V			
C2512	1-163-031-11	CERAMIC CHIP 0.01MF		50V			
C2513	1-163-109-00	CERAMIC CHIP 47PF	5%	50V			
C2514	1-126-163-11	ELECT 4.7MF	20%	16V			
C2516	1-126-163-11	ELECT 4.7MF	20%	50V			
C2517	1-163-031-11	CERAMIC CHIP 0.01MF		50V			
C2518	1-163-031-11	CERAMIC CHIP 0.01MF		50V			
C2519	1-163-031-11	CERAMIC CHIP 0.01MF		50V			
C2520	1-163-031-11	CERAMIC CHIP 0.01MF		50V			
C2521	1-163-088-00	CERAMIC CHIP 5PF	0.25PF	50V			
C2522	1-163-009-11	CERAMIC CHIP 0.001MF	10%	50V			
C2523	1-163-100-00	CERAMIC CHIP 20PF	5%	50V			
C2524	1-163-031-11	CERAMIC CHIP 0.01MF		50V			
C2525	1-163-031-11	CERAMIC CHIP 0.01MF		50V			
C2526	1-163-031-11	CERAMIC CHIP 0.01MF		50V			
C2527	1-163-031-11	CERAMIC CHIP 0.01MF		50V			
C2528	1-163-031-11	CERAMIC CHIP 0.01MF		50V			
C2529	1-163-031-11	CERAMIC CHIP 0.01MF		50V			
C2532	1-126-163-11	ELECT 4.7MF	20%	16V			
C2536	1-124-589-11	ELECT 47MF	20%	16V			
C2537	1-163-031-11	CERAMIC CHIP 0.01MF		50V			
C2540	1-126-163-11	ELECT 4.7MF	20%	16V			
C2544	1-163-031-11	CERAMIC CHIP 0.01MF		50V			
C2545	1-163-031-11	CERAMIC CHIP 0.01MF		50V			
C2546	1-163-031-11	CERAMIC CHIP 0.01MF		50V			
C2547	1-163-031-11	CERAMIC CHIP 0.01MF		50V			
C2548	1-163-031-11	CERAMIC CHIP 0.01MF		50V			
C2549	1-163-031-11	CERAMIC CHIP 0.01MF		50V			
C2550	1-163-031-11	CERAMIC CHIP 0.01MF		50V			
C2551	1-163-031-11	CERAMIC CHIP 0.01MF		50V			
C2552	1-163-031-11	CERAMIC CHIP 0.01MF		50V			
C2553	1-126-177-11	ELECT 100MF	20%	10V			
C2554	1-163-033-00	CERAMIC CHIP 0.022MF		50V			
C2557	1-163-031-11	CERAMIC CHIP 0.01MF		50V			
C2558	1-163-031-11	CERAMIC CHIP 0.01MF		50V			
C2560	1-126-163-11	ELECT 4.7MF	20%	16V			
C2561	1-163-263-11	CERAMIC CHIP 330PF	5%	50V			
C2562	1-163-018-00	CERAMIC CHIP 0.0056MF	10%	50V			
C2563	1-164-695-11	CERAMIC CHIP 0.0022MF	5%	50V			
C2566	1-126-163-11	ELECT 4.7MF	20%	16V			
C2569	1-164-695-11	CERAMIC CHIP 0.0022MF	5%	50V			
C2570	1-163-018-00	CERAMIC CHIP 0.0056MF	10%	50V			
C2571	1-163-263-11	CERAMIC CHIP 330PF	5%	50V			
C2572	1-164-695-11	CERAMIC CHIP 0.0022MF	5%	50V			
C2573	1-163-263-11	CERAMIC CHIP 330PF	5%	50V			
C2574	1-163-018-00	CERAMIC CHIP 0.0056MF	10%	50V			
C2575	1-163-031-11	CERAMIC CHIP 0.01MF		50V			
C2577	1-124-465-00	ELECT 0.47MF	20%	50V			
C2578	1-124-465-00	ELECT 0.47MF	20%	50V			
C2579	1-163-018-00	CERAMIC CHIP 0.0056MF	10%	50V			
C2580	1-163-263-11	CERAMIC CHIP 330PF	5%	50V			
C2581	1-164-695-11	CERAMIC CHIP 0.0022MF	5%	50V			
C2582	1-124-234-00	ELECT 22MF	20%	16V			
C2583	1-124-589-11	ELECT 47MF	20%	16V			
C2590	1-135-179-21	TANTAL. CHIP 2.2MF	20%	16V			
C2591	1-135-179-21	TANTAL. CHIP 2.2MF	20%	16V			
C2592	1-135-179-21	TANTAL. CHIP 2.2MF	20%	16V			
C2593	1-135-179-21	TANTAL. CHIP 2.2MF	20%	16V			
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D2501	8-719-404-46	DIODE MA110					
<FERRITE BEAD>							
FB2502	1-410-397-21	FERRITE BEAD INDUCTOR 1.1UH					
FB2504	1-410-397-21	FERRITE BEAD INDUCTOR 1.1UH					
<FILTER>							
FL2501	1-236-164-11	ENCAPSULATED COMPONENT					
FL2503	1-236-164-11	ENCAPSULATED COMPONENT					
FL2505	1-236-164-11	ENCAPSULATED COMPONENT					
FL2506	1-236-129-11	ENCAPSULATED COMPONENT					
FL2507	1-236-129-11	ENCAPSULATED COMPONENT					
FL2508	1-236-129-11	ENCAPSULATED COMPONENT					
FL2509	1-236-129-11	ENCAPSULATED COMPONENT					
<IC>							
IC2501	8-759-052-52	IC L78M05T-FA					
IC2502	8-759-031-31	IC MC33174M					
IC2503	8-752-344-45	IC CXD2555Q					
IC2504	8-752-343-18	IC CXD2704Q					
IC2506	8-759-031-31	IC MC33174M					
IC2507	8-752-344-45	IC CXD2555Q					
IC2508	8-752-835-59	IC CXP5068H-081Q					
IC2509	8-759-042-02	IC S-80743AL-A7-S					
IC2510	8-752-332-80	IC CXD1160AQ					
IC2511	8-759-932-21	IC MB81256-12PSZ					
IC2512	8-759-069-14	IC M51132L					
IC2513	8-759-100-96	IC UPC4558G2					
<CONNECTOR>							
J2501	*1-573-966-11	PIN, CONNECTOR (PC BOARD) 36P					
J2501	1-573-966-11	PIN, CONNECTOR (PC BOARD) 36P					
<COIL>							
L2501	1-410-204-31	INDUCTOR CHIP 10UH					
L2504	1-410-204-31	INDUCTOR CHIP 10UH					
L2505	1-410-196-11	INDUCTOR CHIP 2.2UH					
L2510	1-410-204-31	INDUCTOR CHIP 10UH					
L2511	1-410-204-31	INDUCTOR CHIP 10UH					
L2512	1-410-204-31	INDUCTOR CHIP 10UH					
L2513	1-410-204-31	INDUCTOR CHIP 10UH					
L2514	1-410-204-31	INDUCTOR CHIP 10UH					
L2515	1-410-204-31	INDUCTOR CHIP 10UH					
L2516	1-410-204-31	INDUCTOR CHIP 10UH					
L2517	1-410-204-31	INDUCTOR CHIP 10UH					
<TRANSISTOR>							
Q2501	8-729-422-27	TRANSISTOR 2SD601A-Q					
<RESISTOR>							
R2501	1-216-097-00	METAL GLAZE 100K 5% 1/10W					
R2502	1-216-699-11	METAL CHIP 100K 0.50% 1/10W					
R2505	1-216-667-11	METAL CHIP 4.7K 0.50% 1/10W					
R2506	1-216-667-11	METAL CHIP 4.7K 0.50% 1/10W					
R2507	1-216-097-00	METAL GLAZE 100K 5% 1/10W					
R2508	1-216-699-11	METAL CHIP 100K 0.50% 1/10W					
R2509	1-216-097-00	METAL GLAZE 100K 5% 1/10W					